Electrical World

McGRAW-HILL PUBLISHING CO. INC. • 330 W. 42ND STREET, NEW YORK 36, N. Y.

Copyrighted 1959, McGraw-Hill Publishing Company, Inc.

GENERAL ALPHABETICAL INDEX

Volume 151 January-June 1959

A

Accounting

Ebasco Services questions FPC accounting revisions (N) June 15.... 44
EEI brief opposes SEC accounting proposal (N) Apr. 20..... 79
FPC plans change for accounts system (N) May 25 60
Georgia Power Co.'s minor materials system cuts cost. O. M. Campbell, Feb. 9 58
IBM accounting trims stock at Commonwealth Edison. W. S. Marks (chart) May 4..... *55
Report on rates and regulation—Which way with section 167? June 1..... 69
SEC proposes change in accounting procedure (N) Feb. 9..... 50

Advertising (see also **Public Relations**)

Curb on all ad expenses sought in California (N) Mar. 23..... 33
ECAP ad case—"public issue" argument readied (N) Mar. 30..... 64
ECAP ad issues unresolved (N) Jan. 12 49
FPC ad ruling "unjustly discriminatory" says A. J. G. Priest (N) Mar. 9 *54
Industry sponsors 30 page Life ad (N) Mar. 2 81
Pacific G&E wins nine awards (N) May 25 56
The power companies' troubles (Ed) Apr. 13 65
PUAA 38th annual convention (N) May 25 ..... *56

Air Conditioning

Costs drop reported (N) Apr. 20..... 186
Dallas, Tex. shopping center has air-conditioned streets, Apr. 6..... *87
EEI issues weather book (N) May 11. 92
Maintenance, absenteeism drop in textile plant with addition of modern air conditioning. L. Albertson, Mar. 23 ..... *49
Ohio Edison service building is heated and cooled electrically. Ruhlen & McElhaney, June 15 ..... *46
Single-phase serves residential air conditioning better, cheaper. Bryce Brady & others (charts & tables) Jan. 19 38

Air Pollution (see also **Fly Ash**)

FPC faces ticklish question on gas use for boilers (N) May 25..... 59

Anniversaries

Congratulations AIEE on your 75th (Ed) May 11..... 35
IES of England observes 25th anniversary (N) Feb. 23..... 147
Reddy Kilowatt is 25 years old, Feb. 16 *167
REA celebrates 25th anniversary next year (N) May 25..... 123

Appliances

Appliance sales take 7.5% drop. Ted Weber (tables) Feb. 23..... 94
Electric range doubles as space heater (N) Apr. 27..... *91
Gas manufacturers plans (N) Mar. 2. 83
Texas bill would prohibit utility sales of appliances (N) Apr. 20..... 205

Area Development

Area development spurs applied, Mar. 30 ..... *155
Utilities of Kentucky boost farms and industry (map) Mar. 2..... *75

Associations

AIEE—Congratulations AIEE on your 75th (Ed) May 11..... 35
AIEE—Foote, James Harold is nominated for president (N) Feb. 16... *63
AIEE—founders to be commemorated (N) May 11 ..... *38
AIEE Winter General Meeting report, Mar. 2 ..... *47-56
AIEE Winter General Meeting told to "define engineer's role in our society" (N) Feb. 16..... *62
American Public Power Association annual convention (N) June 29..... *92
APPA third annual Engineering and Operations Workshop cites steam plant gains, Mar. 16..... 66
ASME annual meeting stresses fuel research, Jan. 26..... *104
American Power Conference, Apr. 27. *50
American Power Conference—Soviet guests tell of power system developments, Apr. 27 ..... *52
American Right of Way Association meeting set (N) May 18..... 66
American Society of Heating and Air Conditioning Engineers and the American Society of Refrigerating Engineers to merge (N) Jan. 26... 160
Are conventions effective enough? (Ed) June 8 51
Committee on Highways and Utilities—Joint Committee would ease relocation problems (Ed) June 8..... 51
EEI-AEIC Meter & Service Committee meeting discusses practices (N) May 25 ..... *61
EEI annual meeting to explore future challenges (N) Mar. 16..... 50
EEI Annual Purchasing and Stores Committee Meeting
How utilities cut costs through "value analysis". May 25..... *84
Ways to check material handling expenses, June 1..... *60
Get . . . and keep materials under control, June 8..... *80
EEI Automotive and Mobile Equipment Committee meeting (N) May 4 *53
EEI begins local-level promotion for NELP (N) May 18..... 138
EEI brief opposes SEC accounting proposal (N) Apr. 20..... 79
EEI convention—Ideas that could work for you (Ed) Apr. 20..... 75
EEI Customer Relations Committee seeks private-power backing (N) Apr. 6 47
EEI Electric System & Equipment Committee meeting (N) Apr. 13.... 126
EEI Gilbert study—report on all-electric service (table) Jan. 19..... 63
EEI issues weather book (N) May 11 92
EEI—LBE Women's Conference (N) Feb. 2 ..... *36
EEI's new president, Allen S. King, installed (N) June 22..... 59
EEI—NSP's Allen S. King to take reins, Apr. 20..... *92
EEI—"Power and Progress"—a big step forward (Ed) Jan. 12..... 47
EEI Sales Promotion Awards deadlines near (N) Jan. 26..... 149
EEI T&D Committee meeting (N) Mar. 16 ..... *53
EEI Task Force estimates nuclear fuel cost halved (N) Feb. 16..... 66
EEI Transmission & Distribution Committee meeting (N) June 8..... 57
EEI Twenty-Fifth Annual Sales Conference, Mar. 30 ..... *65
EEI's 25th Semi-Annual Electric Power Survey (charts & ta le) May 25 103
EEI 27th annual convention—full report, Apr. 20.....*83-98
Electric Council of New England Workshop, June 22 125

(Ed) Editorial. *Illustrated. (N) News. (R) Reference Sheet.

Electric Quartz Heating Industry Conference held (N) Mar. 23 87
Engineers Joint Council might become American Engineers' Assn.—3 engineering societies focus on merger plan (N) Feb. 2 ..... *36
IES of England observes 25th anniversary (N) Feb. 23 147
MVEA meeting told utilities are losing by default (N) May 18 ..... *67
MVEA sales meeting (N) Apr. 13 ..... *126
Meetings need the "new look" (Ed) Apr. 6 42
NELPA annual Engineering & Operating Conference (N) June 1 45
NRECA 17th annual meeting, Feb. 23 ..... *76
National Association of Corrosion Engineers annual convention, Apr. 20 ..... *210
PCEA annual convention (N) June 29 ..... *91
PCEA Engineering & Operating Section meeting, May 4 ..... *108
PEA Prime Movers Committee—load control is topic (N) Mar. 23 46
PEA System Planning Committee Spring meeting (N) June 8 57
PUAA 38th annual convention (N) May 25 ..... *56
Public Utility Buyers Group meeting argues advance buying, Mar. 23 ..... *37
RMEL meeting told use realistic loading limits (N) June 15 45
SEE confers on utility problems (N) Jan. 5 64
SEE Engineering & Operations meeting—Clapp, W. J. of Florida Power cites threat to private atom-power (N) May 11 41
SEE nominates officers, directors (N) Apr. 20 ..... *78
SEE 26th annual conference—industry leaders set goals (N) Apr. 27 ..... *49
Southwest Electric Conference annual meeting, May 4 ..... *109
To help you get more from AIEE meeting (Ed) Feb. 2 31
A working audience makes a better meeting (Ed) Mar. 2 41

Atomic Energy (see **Nuclear Power**)

Atomic Energy Commission

AEC advisory group attempts to bridge the gap (N) Jan. 19 30
AEC reactor development budget (table) (N) Jan. 26 57
Drafts indemnity change (N) Apr. 20 80
Drafts ten-year blueprint (N) June 22 57
Hanford power output eyed (N) May 4 51
Invites proposals for superheat reactor (N) Mar. 23 36
McCone, John A. wants more selectivity on reactor types (N) Feb. 2 ..... *34
One-stop reactor test strives for superheat (N) Apr. 6 47
Signs contract with Carolinas Virginia group (N) Feb. 2 34
SPERT-III—test reactor achieves criticality (N) Jan. 12 ..... *51

Austria

Terminal boxes replace insulators at ELIN Co. installations, June 8 ..... *71

Awards

Alabama Power wins Edison Award (N) (map) Apr. 13 ..... *66
EEI Sales Promotion Awards deadlines near (N) Jan. 26 149
Light for Living prize winners receive cash awards (N) June 8 ..... *112
Live Better Electrically wins American Public Relations Association's award (N) May 25 ..... *114
Look Magazine Adequate Wiring Awards to Baltimore G&E and United Illuminating Co. (N) Mar. 2 81
Lott, Harry A. of Southern California Edison wins 1958 Hatfield Pool (N) Feb. 23 ..... *78
National Landscaping Award won by Connecticut P&L Co. (N) Jan. 19 ..... *70
Pacific G&E wins nine PUAA awards (N) May 25 56
Reddy Kilowatt Annual Report Contest awards (N) June 15 42

B

Batteries

British Railways testing first twin-car battery railcar (N) June 29 88
Electric cars—battery makers bullish on the potential of electric vehicles (N) Apr. 20 ..... *78
Guides reduce storage battery costs, L. J. Bodeman (R) Pt I, June 1 ... 86
Pt II, June 15-59, Pt III, June 29 .. 100
San Antonio PS Board charges vehicle batteries easily, May 11 ..... *50

Boilers

City of Memphis Light, Gas & Water Div. speeds construction with rail spur into boiler—EUM report, Mar. 30 ..... *116
Commonwealth Edison boiler damaged by explosions at Crawford plant (N) June 8 56
End-welded studs hold boiler insulation (N) Mar. 9 ..... *81
FPC faces ticklish question on gas use for boilers (N) May 25 59
Large packaged preheater installed to cut fuel cost at Braintree, Mass. (N) June 22 ..... *100
Louisiana P&L uses porcelain enamel on boiler (N) Feb. 16 86
Orders mount; "Buy & Store Plan" saves $8 (table) (N) Apr. 27 74
Report on heavy equipment—Order now or risk late shipment (charts) Feb. 2 63
Single shell combines feedwater heaters, F. P. Wittmer Jr., Jan. 19 ..... *42
Wisconsin P&L pressure-fired cyclone furnaces work well, L. W. Hoffman (table) May 11 ..... *48

Bonneville Power Administration

BPA and PG&E intertie proposal hits a snag (N) Apr. 20 80
BPA-Pacific G&E agree on initial intertie points (N) Mar. 23 34
Joint plan backed on BPA tie (N) Feb. 23 80
Study starts on "dump" energy sale (N) Feb. 2 35
Tie line study proposed by Interior unit (N) May 18 65

Bureau of Reclamation (see **Reclamation Bureau**)

Buses

Aluminum bus saves in substation design for Northern States Power Weber & Fossum, May 25 ..... *62
Aluminum bus solves banking problems—EUM report, Mar. 30 ..... *113
Aluminum, double-deck buses (N) Mar. 23 ..... *59
Delta-Star to supply three high-capacity buses (N) Feb. 9 70
High thermal-rated bus duct built for Tampa Electric (N) Jan. 26 108
Isolated phase bus to carry 12,000 amp (N) Mar. 9 ..... *81
Louisiana P&L speaker cites savings on buses to EEI group (N) Apr. 13, *126
Split-bus adopted for South Carolina E&G's McMeekin substation, E. P. Miller, Apr. 6 ..... *50
Temporary substation bus aids service continuity at Appalachian Power Co, J. B. Doss, Apr. 6 ..... *54
Welding data for aluminum bus, connectors (R) May 18 73
Welding installation data for switch yard bus (R) May 4 72

Bushings

Bushing welded to tanks (N) Feb. 2 .. 51

C

Cables

Anaconda aims at 345-kv cable, Apr. 27 ..... *72
Anaconda ships first cable of entra-high-voltage line (N) May 11 ..... *60
Anti-corrosion steps cited by Philadelphia Electric speaker at NACE convention, Apr. 29 ..... *210
Cable coupler makes 7.5-kv extension cord (N) May 18 ..... *54
German utility installs aluminum-sheath cable, Jan. 19 ..... *40
Ice loading nomogram for wire or cable, R. P. Buckingham (R) Jan. 12 70
Install lighting cable for 43% less—EUM report, G. A. Mayer, Mar. 30 .. *101
Mechanical mole helps pull in cable, Jan. 26 ..... *81
Plastic pipe cuts cable installation costs at Patchogue Electric Light, Nicholas Fleishmann, Mar. 9 ..... *70
Polyethylene sleeves protect cable from moisture, D. F. Tulloch, May 4. *60
Pulling rig helps install pipe type cable for Duquesne Light, M. W. Ghen, Jan. 26 ..... *82
St. Lawrence cable failure followed by curtailment (N) Feb. 2 33
Split conduit elbow reduces bottlenecks, J. A. Taylor, May 4 ..... *91
Trolley lanes of Queensboro Bridge will house bridge cables (N) Feb. 2. *37

Canada

Canadian construction and expenditures (tables) Jan. 26 94
Gas turbines will firm up B. C. hydro (N) June 29 90
3/4 ths of feasible hydro power remains to be tapped (N) (table) Apr. 6 49

Capacitors

Charts aid capacitor fuse selection, H. C. Stone (R) Feb. 9 62
Chart aids in application of shunt capacitors, R. A. Dewberry (R) Feb. 23 82
Installed capacitor kilovars increased during 1958 (N) Jan. 26 112
Philadelphia Electric capacitors go underground for overhead distribution (N) June 22 ..... *100
Saugamo Electric Co.'s seminar discusses capacitor applications, Jan. 5 *39
Thermal device matches capacitors with kvar load—EUM report, Johnson & Hardin, Mar. 30 ..... *104
Thermostat controls secondary capacitors at City Public Service Board of San Antonio, June 22 87

Capacity Additions

Capacity additions reported to Electrical World—Kw (tables) Feb. 23, 101
Changes in installed generating capacity—Mw (nameplate) (tables) Feb. 23 99
FPC ups estimates, sees 421-million kw capacity in 1980 (N) June 29 .. 89
Generating capacity by ownership—Mw (tables) Feb. 23 89
Installed capacity by type of prime mover—Mw (tables) Feb. 23 89
Number and installed capacity of electric utility generating plants by states and type of prime mover—Kw (table) Feb. 23 100

Carrier Current (see **Communications, Controls**)

Circuit Breakers

Expulsion breaker protects substation for Georgia Power Co, H. H. Strozier, May 25 ..... *68
First 15,000 Mva SF6 breaker will be installed by Pennsylvania P&L (N) Jan. 26 ..... *106
Handy gauge checks OCB contacts, P. R. Iler, Jan. 19 ..... *40
Modular unit is basis of breaker design, Shores & Wilson, Apr. 20 ..... *104
Schwager-Wood to build Oerlikon designed breakers (N) Jan. 19 52
Utilities study SF_6 as interrupting medium, A. P. Strom (charts) Feb. 2 *40

Commercial Applications

British Railways testing first twin-car battery railcar (N) June 29 88
Cleveland Vehicle expands truck output, takes a closer look at car potential (N) Feb. 16 ..... *65
Electric cars—Battery makers bullish on the potential of electric vehicles (N) Apr. 20 ..... *78
Electric cars—Dr. J. Bolsey aims for No. 2 market (N) Mar. 16 49
Electric car—the "Electric's" nearly over the hump (N) Feb. 9 ..... *45
Electric cars—First "electric" rated highly, Peter Kave, Mar. 30 ..... *61
Electric car—men behind the electric car take a look at the prospects (N) May 18 ..... *62
Electric car—mined emotions follow new electric car plans (N) Apr. 13, 69
Electric car—$1,800 "electric" makes dramatic debut (N) June 29 ..... *126
Electric car—TEL "electric" debuts in London (N) Apr. 6 ..... *45
Electric car — Washington Water Power Co.'s electric car — interest hiked by Bank Display of No. 1 (N) Apr. 13 ..... *69
Electric car — Washington Water Pow ers bright future (N) Jan. 5 *25
"Electric" power for any car—battery powered Chevy may point the way (N) Mar. 23 ..... *34
Electric runabout—future design previewed at Syracuse Univ. competition (N) Feb. 23 ..... *79
Electric vehicle "renaissance" sparked by low cost factors (N) June 29 ... 126
Electric vehicles: foreign countries are cool on idea (N) Apr. 27 ..... *46
4th Commercial Cooking survey (charts & tables) Jan. 12 ..... *57-62
Seattle, Wash. plans monorail for exposition (N) May 18 ..... *65

Communications

Carrier links plants with four voice channels on Pacific G&E system, R. L. Brinton, Feb. 16 ..... *72
Collins microwave system installed for Tampa Electric (N) Feb. 2 ..... *51
Device phones in remote alarms orally, W. C. Baylis, Jan. 5 ..... *36
FCC estimates too low on radio channel needs (N) May 18 82
Florida P&L customer service department relays data to crew dispatchers by two-way telescribing communications, W. E. Wilson, June 8 ..... *110
Memphis Light, Gas and Water Div. system linked with looped microwave, A. H. Grady Jr., May 4 ..... *54

(Ed) Editorial. *Illustrated. (N) News. (R) Reference Sheet.

Mountainside reflector directs microwave to El Paso building, Corbell & Stuart, June 8 ..... *69
Tampa Electric's five-station microwave system ties system's operational centers (map) Mar. 23 ..... *42
24-hr clock system reduces errors at Rochester G&E, G. H. Fielder, Jan. 5 *36
Two-way radio speeds stores handling at Con Edison, Feb. 2 ..... *42

Computers

AIEE Winter General Meeting report—Has increased range, accuracy, Mar. 2 55
Automatic data logger checks plant operation at PS Co. of Oklahoma's Tulsa Station—EUM report, Mar. 30 *120
Desk-top analog computer tailored for engineer's use (N) May 4 ..... *78
Digital computer to direct load control—Philadelphia Electric and Honeywell to collaborate on joint development (N) Mar. 23 55
Digital computers save $1.1 million for Detroit Edison Co. (N) June 29 91
Honeywell 800 data processing system scheduled for 1960 (N) Feb. 16 89
IBM computer speeds bus design for American Electric Power Service Corp., C. A. Imburgia & others, Jan. 12 56
Louisiana P&L's Little Gypsy will be first completely automatic steam power plant with digital computer control system (N) Mar. 23 55
National Cash Register launches innovation for computers (N) Feb. 16 90
New analytical tools permit integrated system planning, Kirchmayer & Mellor (charts & tables) June 1 52
Sangamo Electric will market FP demand recorders (N) May 18 96
Southern California Edison orders 2 control computers (N) June 22 58
Westinghouse develops air conditioning computer (N) Mar. 9 96

Condensers

Aluminum the choice of West Penn Power for condenser tubes (N) Mar. 2 ..... *62
Test condenser tubes electronically, Maretzo & Cleary, Mar. 2 ..... *57

Conductors

Alcoa to publish conductor data (N) Apr. 13 92
Aluminum-clad conductors replace steel at crossings on Con Edison system, E. F. Bowe, Feb. 9 ..... *56
Creep—how to gauge effect of creep, G. H. Phillips (charts & tables) Mar. 9 56
Creep lengthens sag by 2 ft, W. L. Rush, Mar. 9 57
Kansas City P&L new 161-kv line is adaptable to bundling, F. W. Shaw, June 8 ..... *64
Kansas G&E simplifies armor rod installation, May 11 ..... *56

Connectors

Anderson Electric custom-builds 16-inch flexible connector (N) June 8 .. *84
Insulated connector resists corrosion, E. S. Raila, May 4 ..... *91
Jasper Blackburn Corp.'s precision lab proves connecto' designs (N) Apr. 6 ..... *70
Welding data for aluminum bus, connectors (R) May 18 73

Construction

A-plant progress and problems—spotlight focuses again (N) Mar. 9 ..... *50
Better methods bring quality service at lower costs (Ed) Mar. 30 59
Cable plow helps bury counterpoise—EUM report, Mar. 30 114
Chance, A. B. Co. demonstrates new line of power cutting tools (N) June 1 ..... *63
City of Memphis Light, Gas & Water Div. speeds construction with rail spur into boiler—EUM report, Mar. 30 ..... *116
Commonwealth Edison's universal pothead mounting plate, J. P. Clyde, June 29 ..... *168
Connecticut L&P "shoehorns" 4 circuits into 80-ft right-of-way, Humphries & Dean, June 29 ..... *149
Construction expenditures—thousands of dollars and % total U.S. (charts & tables) Jan. 26 85
Copter lifts poles to 8,000 ft—EUM report, Mar. 30 ..... *110
Counterweights aid pole setting, Chidester & Wiggins, May 25 ..... *82
Duke Power Co.'s Allen Plant builds for five units with 1,200-Mw capacity in 1961, J. Q. Wray Jr., Apr. 6 ..... *56
Electric utility methods—reports, Mar. 30 *81—142, June 29 ..... *127-196
Helicopter hauls, pours concrete for tower footings (N) Apr. 6 ..... *46
Houston L&P pushes small pipe accurately with winch line, June 29 ... *161
Hypodermic needle seals gas leaks for Long Island Lighting Co., R. S. Christopher, Mar. 9 ..... *76
Kansas G&E wrench tightens washerhead nuts easily, June 1 ..... *51
Muskeg needs special tower footings, J. O. Tonning, June 29 ..... *94
Ohio Edison shares benefits of joint planning for new Stratton Plant, dam and lock project, road improvement, Carnegie & Foote, Mar. 23 ... *38
Ontario Hydro adds new helicopter to fleet (N) May 11 93
Petersen Engineering Co. sets pace in tension stringing (N) June 1 ..... *64
Philadelphia Electric's bucket auger speeds substation pier work, W. S. Reese, June 29 162
Plastic pipe cuts cable installation costs at Patchogue Electric Light, Nicholas Fleishmann, Mar. 9 ..... *70
Rig designed for heavy lifting cuts power plant construction time and costs, R. L. Allshouse & others, Jan. 5 ..... *34
Rubber-plastic spacer speeds installation of service at Portland General Electric, H. A. Bither, June 29 .. *170
Special members cut structure cost for substation at Gastonia, N. C., R. Van Sleen, Jan. 19 ..... *41
Straw-gravel road carries heavy units, R. F. Tanner, June 29 168
Substation design, building
Aluminum bus saves in substation design, Weber & Fossum, May 25 ..... *62
Dual cooling ups bank rating for emergency, Kelly & Progler, May 25 ..... *64
T-type structure goes up fast, H. McComb, May 25 ..... *66
Expulsion breaker protects sub, H. H. Strozier, May 25 ..... *68
Automatic ground switch protects tapped sub, R. T. Culberson, May 25 ..... *70
Tool makes up ½-in. guys for Kansas G&E, June 29 ..... *166

Controls

Gas turbine remote controlled (N) Mar. 2 62
GE unveils automated machine tool facility (N) June 29 ..... *118
Louisiana P&L carrier operates on insulated shield wire of H-frame line, Deloney & Davey (tables) May 11 .. 42
Ohio Edison's accurate controls aid aerial survey of coal, Zelenka & Forsyth, June 29 ..... *152
Thermal device matches capacitors with kvar loads—EUM report, Johnson & Hardin, Mar. 30 ..... *104
Thermostat controls secondary capacitors at City Public Service Board of San Antonio, June 22 87

Cooperatives (see also **Rural Electrification Administration**)

Georgia Senate blocks co-op city sales (N) Mar. 16 ..... *50
Indiana court reinstates dual standard returns for utilities—decrees that PSC doesn't have jurisdiction over co-op loans (N) Jan. 19 28
NRECA 17th annual meeting—Eisenhower tells co-ops: "Become self-sufficient", Feb. 23 ..... *76
Report on REA co-ops (charts & table) May 18 119
REA Administrator Hamil hails success story of co-ops (N) May 4 48
Tactics of Ellis draw fire of co-op director who backed Minnesota resolution for NRECA audit (N) Apr. 6 45
Whitmore, C. H. asks for law on co-op 'raids' (N) Mar. 16 52

Corporate Changes

Alcoa and Rome Cable plan merger (N) Feb. 2 35
Anaconda firms merge for integrated operation (N) Jan. 12 50
Biggest city goes out of power business (Ed) June 1 39
Burndy, to sell "Thermoweld" (N) Mar. 30 161
Chance, A. B. purchases Starline Co. (N) Apr. 20 112
GE re-assigns dozen departments (N) Jan. 12 50
Niagara Mohawk Power Corp.'s plan to buy Herkimer municipal system approved (N) June 1 42
North American Aviation to purchase, Foster Wheeler Corp. (N) Apr. 20 .. 112
North American, Foster Wheeler Corp. call off merger (N) June 22 106
Porcelain's H-V division merged with Chance Co. (N) Jan. 12 76
Saxton Nuclear Experimental Corp.—new firm formed by GPU (N) June 22 59

Corrosion

Bitumastic paint cuts footing rust, Mar. 9 74
NACE annual convention—Philadelphia Electric speaker cites cable anti-corrosion steps, Apr. 20 ..... *210
National-Standard's copper-plated guy unaffected by year's use (N) Feb. 16 86
Public Service E&G uses air purification system for generators (N) Apr. 20 112
Special conduit under Harlem River, N. Y. resists corrosion, Mar. 16 .... *66
Stainless steel paint protects towers, E. J. Higgins, June 1 ..... *49
Tests show aluminized guys effective, E. B. Brant, June 8 71

Czechoslovakia

Czechoslovakia finishes first leg of 400-kv grid (N) Jan. 19 70

D

Defense

NEAR—civil defense alarm proves feasible, Arthur Laudel, Feb. 16 ... *84

Diesel Power

Nebraska City, Neb. diesel goes on base-load operation, June 22 ..... *92
Philadelphia Electric study starts on gas turbines, diesels (N) May 11 ... 38

Distribution

AIEE Winter General Meeting report—underloading can be costly too, Mar. 2 52
Can self-regulating transformers improve service or cut costs? E. L. Leinbach (charts) Apr. 6 52
Carolina P&L 23-kv distribution proves attractive, E. M. Geddie, Apr. 20 ..... *106
Conduit unit under Harlem River, N. Y. resists corrosion, Mar. 16 .... *60
Graph aids in locating protective devices on mains and feeders, J. E. Makkvich (R) Mar. 9 62
Graphs determine distribution source-end grounding requirements, J. E. Skuderna (R) Mar. 23 74
Handle overhead jobs safely with extended stick—EUM report, Erroll Dunbar, Mar. 30 ..... *137
Idaho Power saves $11.79 per kva with 34.5-kv distribution, D. L. Andrews (tables) Apr. 13 ..... *74
Install lighting cable for 43% less—EUM report, G. A. Mayer, Mar. 30 .. *101
Iowa P&L underground planned to take load growth, H. G. Hally, Mar. 9 ..... *69
Kansas G&E patrols check hot line clamps, June 29 ..... *181
Louisiana P&L 'no-tap' transformers pay off on distribution system, H. L. Deloney, May 18 76
Philadelphia Electric capacitors go underground for overhead distribution (N) June 22 ..... *100
Plan distribution for trailer park (R) Apr. 6 ..... *65
Single-phase serves residential air conditioning better, cheaper, Bryce Brady & others (charts & tables) Jan. 19 38
Transmission and distribution construction (tables) Jan. 26 90
Transmission and distribution expenditures—thousands of dollars (tables) Jan. 26 88
Transmission and distribution line construction (charts & tables) Jan. 26 92
240/480-v urged for new homes, F. A. Cox, May 18 82
Underground system costs pared for residential service in Arizona's Mountain Shadow Resort, R. T. Fryer, June 1 ..... *46
Union Electric Co.'s disaster plan meets tornado trial (N) Mar. 9 ..... *53
Westinghouse consolidates distribution apparatus operations (N) Jan. 5 .... *43
Why 240/416-v service is best, A. S. Anderson (tables) May 18 86

Distribution, Industrial

Adequate industrial relaying means three-way engineering teamwork, M. A. Bostwick, Feb. 9 ..... *54
Electro Met converts 175-Mw load from 25 to 60-cps distribution, T. A. Leeds, Jan. 12 ..... *52
Industrial plant voltage dips can be alleviated 4 ways, Bailey & Knable (charts) Mar. 16 56
Logic static switching promises better industrial load control, Fox & Wise (charts) June 29 ..... *98
National Vulcanized Fibre Co.'s operation more economical with utility tie, E. F. Spear, Mar. 23 ..... *50
Ormet Corp.'s Burnside, La. alumina plant distribution combines economy, reliability, Vaccaro & Munzey, May 18 ..... *68

(Ed) Editorial. *Illustrated. (N) News. (R) Reference Sheet.

E

"Electrical World"

New publisher, Warren W. Shaw; new editor, Charles F. Rochgesang (N) June 29 ..... *89

Employee Training and Welfare (see also **Labor**)

Allis-Chalmers instructs motor shop personnel in new insulation (N) May 25 ..... *88
Cincinnati G&E instructs personnel with training aids. P. J. Riemar, May 25 ..... *82
Employee relations—What's on the supervisor's mind? Mar. 2 ..... *73
Latin Americans learn hot line work —American & Foreign Power Co. and Panamanian utility sponsor two schools (N) Apr. 6 ..... *48
Let's use talent more efficiently (Ed) Jan. 19 27
Transformer set-up aids training at Iowa Southern Utilities Co., Mar. 16 ..... *61

Engineers

AIEE told to 'define engineer's role in our society' (N) Feb. 16 ..... *62
Engineering manpower—Freshman give engineering the 'cold shoulder' (charts) June 8 105
Engineers' salaries (charts & table) Apr. 13 113
Enhancing professional prestige (Ed) Mar. 23 31
Rickover, Vice Admiral on education (Ed) Jan. 5 23
The slide rule, gentlemen, isn't everything! (Ed) Mar. 9 49

F

Federal Power Commission

Ad ruling branded as 'unjustly discriminatory' by A. J. G. Priest (N) Mar. 9 ..... *54
Change planned for accounts system (N) May 25 60
Ebasco questions accounting revisions (N) June 15 44
Sees 421-million kw capacity in 1986 (N) June 29 89
Stricter rules for the regulators (Ed) June 22 55

Financial

Annual reports are being improved (Ed) June 15 39
A-plant subsidies debate looms (N) Jan. 5 24
Better methods open way to real savings (Ed) June 29 85
Budget—1959 budget holds at '58's $4.9 billion (charts & tables) Jan. 26 84
Buy utility stocks for safety (Ed) May 25 55
CEI banks on growth, economy, Jan. 5 53
Capital spending turns upward, McGraw-Hill survey shows; modernization, R&D outlays highlight advance (charts & tables) (N) Apr. 20 76
EEI 27th annual convention—Cresap, M. W. Jr. warns on inflation, Apr. 29 ..... *89
EEI 27th annual convention—experts examine future problems of rates, system planning, and finances (chart) Apr. 29 ..... *96
EEI 27th annual convention—Soviet economic rivalry dominates convention (charts) Apr. 29 ..... *84
Eisenhower budgets for a breathing spell on government power spending (tables) (N) Jan. 26 76
'Fair Value' gains more recognition (N) Jan. 26 162
Florida Power pioneers saluted at annual stockholder meeting (N) Apr. 13 ..... *71
How 22 manufacturers view 1959 (N) Jan. 5 29
Manufacturers' shipments dropped 10.1% to $19.5 billion in 1958 (charts & tables) Feb. 23 90
PCEA told securities must sell (N) June 29 ..... *91
Report on electrical business outlook (charts) Jan. 26-141, Feb. 16-97, Apr. 27-83, May 25 103
Report on electrical business outlook —How steel strike will hit utilities (charts) June 22 119
Report on electrical business outlook —a new look at reserve margins; steel and business: the tail wagging the dog? (charts) Mar. 23 81
Report on finance—'Interest during construction' credit, Mar. 30 ..... *151
Report on finance—Utility stocks in the '59 market (charts) May 11 73
Report on financing—What's ahead in money markets? (charts) Feb. 23 137
Report on utility earnings—net incomes for 144 operating electric utilities (chart & table) Mar. 16 83
REA co-ops report (charts & table) May 18 119
SMUD: fair value depreciation (charts) Jan. 5 51
Utilities unbend a bit at stockholder meetings (N) June 1 ..... *43
Utility plant, revenues, net hit new tops (charts & tables) Jan. 26 96
Utility spending 1959 vs 1958 (Ed) Jan. 26 75
We're behind you 100%, Mr. Gadsby (Ed) Feb. 23 75
Westinghouse reports rise in earnings, dip in sales (N) Feb. 16 86
Why they call it "recession proof" (Ed) Feb. 23 75
Wisconsin P&L holds series of 'hard to beat' stockholder meetings, Feb. 9 ..... *48

Fly Ash

Automatic pneumatic handling at Seaward Station of Public Service Electric & Gas Co. speeds fly ash to market, June 8 ..... *58

Foreign Trade

Bailey, Rep Cleveland M. calls for another look at federal power and imports (N) Mar. 2 ..... *46
Bigger battle looms on imports (N) June 22 ..... *56
The "Buy Foreign" regulations (Ed) Mar. 2 41
English Electric and British government protest turbine award to Baldwin-Lima-Hamilton as violation of Buy-American Act (N) Feb. 2 35
Federal Pacific Electric gets $1-million Philippine contract (N) Feb. 2 51
GE president Cordiner favors liberal trade policy (N) May 18 66
Rep. J. Shelley urges curb on hydroturbine imports (N) Mar. 30 64
TVA heavy equipment imports—Rep. J. Dent joins attack (N) Mar. 9 ... 54
UE blasts firms, utilities on imports (N) Apr. 6 46

France

Integrated network, daring hydro designs help French meet demands. Arthur Erickson (map) June 22 .... *60

Fuel

ASME stresses fuel research, Jan. 26. *104
Cheaper fuel; a matter of good timing (N) Mar. 23 ..... *32
Consumption of coal, oil and gas (table) Feb. 23 98
Cooperation with coal industry brings utilities economical fuel (map) Mar. 16 ..... *54
FPC faces ticklish question on gas use for boilers (N) May 25 59
GE develops hydrogen-oxygen fuel cell (N) June 15 ..... *64
GPU A-plant—fuel economies goal (N) Jan. 26 ..... *162
Nuclear fuel cost halved, EEI Task Force estimates (N) Feb. 16 66
Production, capacity, average use (table) Feb. 23 98
Raw coal generation holds Kansas City P&L's mine-mouth Montrose plant costs in line. J. A. Keeth, May 4 ..... *57
Report on fuel outlook—utilities reveal their fuel plans (charts & tables) Apr. 6 81

G

Generators

AIEE Winter General Meeting report —Two organic moderators cited, Mar. 2 47
Unbalance is chief vibration cause in large units. J. R. Lindsey, Apr. 13.. *78
Welding installation data for generator leads (R) Apr. 20 102
Westinghouse builds 5-kw thermoelectric generating plant (N) Apr. 27... 74

Germany

Leipzig Fair displays power equipment (N) Apr. 13 ..... *94

Ghana

Embarks on Volta River scheme (map) (N) May 18 64

Great Britain

Calder Hall completes first two years. J. H. M. Sykes, Mar. 30 ..... *67
Chapelcross A-plant joins British grid (N) May 25 ..... *58
Report on British nationalization (charts) Mar. 9 99
See need for load-factor emphasis. J. H. M. Sykes, June 29 90

Grounding

Graphs determine distribution source-end grounding requirements. J. E. Skuderna (R) Mar. 23 74
Proper grounding reduces hazards. A. Elek, Feb. 16 ..... *78

H

Heat Pumps

Carrier Corp. develops small homes heat pump (N) June 8 113
Carrier Corp. introduces small homes heat pump (N) Mar. 2 83
Carrier Corp. to design thermoelectric heat pump (N) June 22 102
Eliminate egg aging problem at Stiehm Butter & Egg Co. W. L. Streich, May 25 114
Experience proves heat pumps are economic at Interstate Motor Freight System. G. C. Wagner, Feb. 2 ..... *48
Ohio Edison service building is heated and cooled electrically. Ruhlen & McElhaney, June 15 ..... *46
Toll Gate Garment Co. boosts employee efficiency, morale with heat pumps for heating and cooling, Mar. 23 ..... *50
Why heat pump is your best bet. Reid Gardner, Mar. 16 ..... *62

Heating

Heating passes rough winter test with flying colors (N) Mar. 2 44
Robbins & Myers, Inc. new heating system (N) Mar. 2 83
Russians claim new heating element (N) Mar. 23 87

Heating, Commercial

Commercial Cooking survey (charts & tables) Jan. 12 ..... *57-62
Dog houses are heated electrically (N) Mar. 23 87
Electric heat heats large, geodesic dome at shopping center in Detroit, Mich. (N) Mar. 9 ..... *96
Indianapolis, Ind. Mobile School Rooms heated electrically, Apr. 6.. *87
Ohio Edison service building heated and cooled electrically. Ruhlen & McElhaney, June 15 ..... *46
Radiant heater warms teller and cage at bank (N) Jan. 26 ..... *149
Westinghouse unveils wall panel which will light and heat or cool (N) Feb. 23 ..... *145

Heating, Industrial

Dip tank cuts production cost, boosts business at Duluth Culvert Co. G. J. Alden, June 8 ..... *67
Electric conveyor oven lowers costs at Cosper Manufacturing Co., Inc. H. H. Turner, Apr. 27 ..... *61
Electric heat plays big role in unique process at Tee-Pak, Inc. plant. M. D. Henderson, Apr. 27 ..... *62
Electric salt bath key to quality heat treating. R. O. Smith, Mar. 23 ..... *48
Heaters aid titanium forming at Republic Aviation Corp., June 8 67
Heaters in trucks of Rainbo Baking Co. eliminate waste bread, cut costs. Joseph McClelland, Feb. 2 ..... *50
Immersion heaters keep bater working through winter. G. J. Alden, Feb. 2 ..... *50
Infra-red keeps weigh station comfortable. R. M. Lyons, Feb. 2 ..... *49
Modern oven is key to new line of products at Aldan Rubber Co. G. C. Winner, Apr. 27 ..... *61
New furnace boosts product quality and output. C. G. Feeser, June 8... *69
Novel heating system has multiple functions at Highway Construction Service Co., Feb. 2 ..... *49
Single shell combines feedwater heaters. F. P. Witmer Jr., Jan. 19 ..... *42
Topeka Asphalt converts damaged wine car to efficient asphalt storage tank with specially designed heaters. Earl Palmberg, Feb. 2 ..... *47
Western Maryland Railroad's new oven speeds unloading of frozen coal, June 8 ..... *70

Heating, Residential

EEI Gilbert study—report on all-electric service—what's best for military housing? (table) Jan. 19 63

(Ed) Editorial. *Illustrated. (N) News. (R) Reference Sheet.

Electric heating improves load factor. S. L. Forsyth (charts) Feb. 2..... 45
Electric Quartz Heating Industry Conference held (N) Mar. 23..... 87
House heating poses challenge PEA meeting told (N) June 8..... 57
It's time for electric heat to grow up! Clydewell Birdick, June 29..... *209
Total-electric home promotion launched by Westinghouse (charts) Jan. 19..... 32
Westinghouse's 'Total Electric Home': a giant step (Ed) Feb. 2..... 31

Hydro Stations (see also **Capacity Additions**)

Alabama Power wins Edison Award (N) (map) Apr. 13..... *66
Canada—¾ of feasible hydro power remains to be tapped (N) (table) Apr. 6..... 49
Chief Joseph Dam transformer suffers winding failure (N) Jan. 26..... 78
France meets increased demands with integrated network, daring hydro designs. Arthur Erickson (map) June 22..... *60
Gas turbines will firm up B. C. hydro (N) June 29..... 90
Ghana embarks on Volta River scheme (map) (N) May 18..... 64
Grant County PUD to open Wanapum Dam bids on May 8 (N) Mar. 30... 63
Idaho Power Co., Oxbow addition—migrant fish get boost with new device (N) June 1..... *44
Lewiston Station, largest hydro plant in hemisphere, will be ready in 1962—Niagara power project. John Saloma, Jan. 19..... *34
Missouri River allocations aired again (N) Mar. 16..... 52
Missouri Valley allocations criticized (N) Feb. 23..... 80
Neoprene protects spillway gates at South Carolina PSA's Santee Dam, June 22..... *88
Oregon—Sen. Neuberger and Sen. Morse oppose Potomac Dams (N) June 15..... 43
Pacific Northwest Power proposes fish canal for High Mountain Sheep Dam (N) (map) Mar. 16..... 51
Tusc'arora power plant—Niagara power project. John Saloma, Jan. 19..... *34
West Penn Power truth gages aid overhaul of Lake Lynn hydro unit. R. M. Leahey, June 29..... *156

I

Industrial Applications

Continuous annealing proves flexible, efficient at GE plants, Apr. 27..... *59
Conveyors speed mixing, cut production costs at Ruberoid Co. V. R. Evans, Mar. 23..... *47
Electric heat used to bend and glue laminated plastic at Hyde-Murphy Co. W. F. Hutchins, Feb. 2..... *48
Electric mill cuts feed costs $15 per ton. H. H. Turner Jr., June 8..... *68
Electric pressing doubles business. G. J. Haven, May 25..... *114
Electric pump proves superiority over diesel. J. L. Mumma, Apr. 27..... *60
Electric shell core moulding improves product at Calhoun Foundry Co. R. L. Spencer, Apr. 27..... *60
Electricity plays big part in plastic coating. J. R. Wark, Mar. 23... *48
Electro Met converts smelting furnaces for 25 to 60 cycle. T. A. Leeds, Jan. 12..... *52
Heat pumps eliminate egg aging problem. W. L. Streich, May 25..... 114
Reaction vessel heated, cooled electrically, June 8..... *69
Replacing old gas-fired boiler with electrically heated steam unit reduces maintenance and fumes at Polan, Katz & Co. J. A. Bidding, June 8..... *68
Strapping machine for packages of coiled copper tubing ups output from 25 to 300, Mar. 23..... *49
Topeka Asphalt converts damaged wine car to efficient asphalt storage tank with specially designed heaters. Earl Palmberg, Feb. 2..... *47
Ultrasonic cleaning of meter parts, Mar. 16..... *61

Industrial Relations (see **Employee Training and Welfare**)

Insulating Oil

Central Maine Power field testing of transformer oil proves accurate. William Jajousky, June 15..... *50
Doble reports improved oil tests (N) Mar. 9..... 55
Point system determines substation oil plant for BPA, Mar. 23..... *51

Insulation

Allis-Chalmers instructs motor shop personnel in new insulation (N) May 25..... *88
Appalachian Power Co. Clinch River Plant takes 14 miles of insulation (N) June 29..... *118
Du Pont's fiber material blocks heat penetration (N) Jan. 12..... 78
End-welded studs hold boiler insulation (N) Mar. 9..... *81
Federal Pacific Electric announces new insulation for switchgear in humid areas (N) May 18..... *94
New insulation withstands extreme current. G. F. Simmons, Apr. 13.... *85
Stainless steel extends insulator life in Bergen Tunnel of Lackawanna Railroad. L. J. Stevens, Jan. 12.... *55

Interconnections

BPA "dump" energy sale—study starts (N) Feb. 2..... 35
BPA—Pacific G&E agree on initial intertie points (N) Mar. 23..... 34
BPA and PG&E intertie proposal hits a snag (N) Apr. 20..... 80
BPA tie—joint plan backed (N) Feb. 23..... 80
BPA tie line study proposed by Interior unit (N) May 18..... 65
Idaho Power's Hells Canyon lines wheeling battle re-opens (N) May 4. 50
Philadelphia Electric gets go-ahead on line between A-plant and Maryland (N) Mar. 30..... 62
Power grid proposal must be met (Ed) Mar. 16..... 47
Senate investigation of nation's power transmission systems — fight predicted on "giant" power-grid proposal (N) Feb. 16..... 64

L

Labor (see also **Employee Training and Welfare**)

Allis-Chalmers says strike hasn't delayed shipments (N) Mar. 2..... 66
Allis-Chalmers, UAW hold first strike talks (N) Mar. 16..... 50
AEC drafts indemnity change (N) Apr. 20..... 80
Average wages (table) Jan. 26..... 98
Columbus & Southern Ohio Electric Co.—new contract ends strike (N) Apr. 13..... 68
Columbus & Southern Ohio Electric strike has not affected service (N) Mar. 30..... 63
Labor group bids for atomic energy leverage (N) Jan. 26..... *80
NELPA warned unions imperil price line (N) June 1..... 45
Public Service Electric & Gas Co. strike ends (N) June 29..... *86
Public Service G&E strike continues (N) June 15..... *43
Public Service Electric & Gas Co. strike—negotiations stalled (N) May 25..... *60
Steel strike—how it will hit utilities (charts) June 22..... 119
UE blasts firms, utilities on imports (N) Apr. 6..... 46
Wages—new wage pacts point to average increase under '58 (N) Apr. 27. 44

Legislation

AEC Authorization, Public Works Appropriations Bills show Administration's influence (N) June 15..... 41
A-plant subsidies debate looms (N) Jan. 5..... 24
Bond bill passed by House unit (N) Mar. 23..... 36
California bill would curb all ad expenses (N) Mar. 23..... 33
California legislature passes bill to establish consumer counsel (N) May 18..... 65
Could electric companies take initiative? (Ed) Jan. 12..... 47
"Crash program" on fish migration study sought (N) June 1..... 44
Georgia Senate blocks co-op city sales (N) March 16..... *50
"Influence" bills hit (N) June 29..... 88
Ohio retains "RCN" for rates (N) June 1..... 42
Oregon shelves State Power Commission plan (N) May 4..... 48
"REA re-organization bill" vetoed by President Eisenhower, Senate overrides veto (N) May 4..... 49
REA re-organization clears House (N) Apr. 27..... *45
Raft of bills on power in hopper (N) Jan. 19..... *29
TVA bond financing bill—veto probable on bill as it now stands (N) May 18. 66
Texas bill to permit co-op service in annexed area—chances slim (N) Apr. 13..... 68
Texas bill would prohibit sales of utility appliances (N) Apr. 20..... 205
Washington Senate defeats bill to bar duplication (N) Apr. 20..... 206
Whitmore, C. H. asks for law on co-op "raids" (N) Mar. 16..... 52

Lighting

Eye-Fi Relighting gets industry support (N) Jan. 12..... 75
GE to introduce improved power-groove lamp (N) Mar. 2..... 81
Light for Living prize winners receive cash awards (N) June 8..... *112

Lighting, Commercial

Electric lighting won't trick milk cows into producing more milk (N) Jan. 26..... 159
GE develops comparative lighting kit (N) June 22..... *125
Kansas G&E promotes Friendship Lantern (N) Apr. 20..... *130
Kansas P&L pushes its Twiliter (N) Apr. 20..... *130
Manahawkin Causeway Bridge, N. J., waisthigh lighting provides greater safety (N) May 18..... *96
TVA improves lighting for dispatchers Kyle & Martin June 29..... *107
Westinghouse initiates fluorescent lamp design (N) Apr. 20..... *115
Westinghouse unveils wall panel which will light and heat or cool (N) Feb. 23..... *145

Lighting, Street

The Connecticut Light & Power street lighting story. R. E. Ballard, Apr. 13 *72
Dayton P&L installs fluorescent street lights at housing development (N) June 8..... 113
Delaware P&L to relight Wilmington (N) Feb. 23..... *145
Future for street lighting sales is unlimited (Ed) May 4..... 47
King County, Wash. Water District to install street lighting system (N) Jan. 12..... 75
Maintenance discussed, June 22..... 62
Metal guards protect luminaires on Toledo Edison system. Charles Keller June 29..... *184
Philadelphia replaces its gas lamps. H. E. Mason, May 25..... *111
Seattle City Light devised slide rule to find lamp burning hours. R. K. Walker, June 29..... 174
Upper Darby, Pa. business district has 12.6 ft-c lighting (N) Jan. 12..... *75

Litigation

Consolidated Edison of N. Y. petitions court on FPC gas pact order (N) May 11..... 40
Houston L&P wins first round in court fight to keep using demand meters in Houston (N) Apr. 6..... 49
Indiana court reinstates dual standard returns for utilities—decrees that PSC doesn't have jurisdiction over co-op loans (N) Jan. 19..... 28
Montana-Dakota Utilities case — authority to cancel contract with co-op sustained (N) Apr. 13..... 68
Niagara Project reservoir fight goes to Supreme Court (N) May 25..... 125
Otter Tail favored over cooperative in customer's choice on power source (N) Apr. 13..... 68
Piqua, Ohio vs Dayton P&L hassle back to State (N) June 15..... 43

Load Characteristics

Arizona P'S measures temperature loads. R. E. Reinhold (charts) May 11..... 45
Electric heating improves load factor. S. L. Forsyth (charts) Feb. 2..... 45
House heating poses challenge PEA meeting told (N) June 8..... 57
Normal relay settings handle cold load. R. S. Smithley (charts & tables) June 15..... 52
PEA topic is load control (N) Mar. 23 46
RMEL meeting told use realistic loading limits (N) June 15..... 45
Texas loads continue mounting (chart) Jan. 5..... 38
"T-H Index" should aid utilities (Ed) June 29..... 85
Winter peaks close to estimates (table) (N) Jan. 12..... 48

M

Maintenance

Acid cleaning preserves brass fittings, Mar. 23..... 51
Allis-Chalmers pump design meets salt water test (N) June 8..... 86
Aluminum-plastic sealer preserves tank wall—EUM report. D. W. Tschappa, Mar. 30..... 116
Angled hook eliminates slipping. Cecil Crawford, May 4..... *60
Auto brake slows cooling tower fans, June 29..... 176
Better methods bring quality service at lower cost (Ed) Mar. 30..... 59

(Ed) Editorial. *Illustrated. (N) News. (R) Reference Sheet.

Boom cleans insulators at California Electric Power Co., June 29 173
Canvas cover protects compression tool—EUM report, Mar. 30 ..... *114
Chain drive wheel helps grind valves at Wisconsin Electric Power, Miller & Storck, Apr. 6 ..... *55
Cutter speeds repair of air heater tubes —EUM report, M. E. Lucky, Mar. 30 *108
Electric utility methods—report, Mar. 30 ..... *81-142 June 29 *127-196
GE expects acrylic paint to cut maintenance costs (N) May 4 ..... *76
Hypodermic needle seals gas leaks for Long Island Lighting Co., R. S. Christopher, Mar. 9 ..... *70
Inspection frequency of lines and equipment (R) Jan. 26 102
Jib crane handles interrupters at Ohio Valley Electric, M. L. Ferguson, Feb. 2 ..... *42
Kansas G&E patrols check hot line clamps, June 29 ..... *181
Kansas G&E wrench tightens washerhead nuts easily, June 1 ..... *51
Machine parts with leads attached at Ohio Power Co. A. J. Schenk, Apr. 13 ..... *84
Magnetic map locates trucks at Ohio Power, B. H. Brake, Apr. 20 ..... *82
Maintenance — thousands of dollars (chart & tables) Jan. 26 93
Motorized rake cleans trash racks—EUM report, Mar. 30 ..... *132
Neoprene protects spillway gates at South Carolina PSA's Santee Dam, June 22 ..... *88
Polyethylene sleeves protect cable from moisture, D. F. Tulloch, May 4 *60
Sander improves gasketed joints at Long Island Lighting, C. B. Anderson, Jan. 5 ..... *37
Service street lights with special truck —EUM report, F. M. Cox, Mar. 30 *129
Shot-blaster handles smaller items at Duquesne Light Co. R. W. Storrick, June 29 ..... *182
Stainless steel paint protects towers, E. J. Higgins, June 1 ..... *49
Street Light maintenance discussed, June 22 62
Thomas & Betts markets hand tools (N) Mar. 30 161
Three ways to repair damaged poles quickly—EUM report, Robert Barber, Mar. 30 ..... *131
Ultra-sonic cleaners assure quality product at Allied Control Co. R. O. Smith, Apr. 27 ..... *62
West Penn Power truth gages aid overhaul of hydro unit, R. M. Leahey, June 29 ..... *156

Management

EEI Annual Purchasing and Stores Committee Meeting
How utilities cut costs through "value analysis," May 25 ..... *84
Ways to check material handling expenses, June 1 ..... *60
Get . . . and keep materials under control, June 8 ..... *80
How CEI is helping to shape the downtown Cleveland of tomorrow (maps) (N) June 8 ..... *62
Memo to utility management—check your safety program (Ed) May 18 .. 61
Report on management development—How West Penn builds managers, June 29 ..... *205
Square D makes organizational changes (N) Jan. 12 79
Union Electric's disaster plan in action (N) Mar. 9 ..... *53
Wisconsin P&L greets the shareholder Feb. 9 ..... *48
Work sampling at West Penn Power measures job efficiency, R. V. Longdon, May 11 55

Materials Handling (see also **Trucks and Trailers**)

Automatic pneumatic handling at Sewaren Station of Public Service Electric & Gas Co. speeds fly ash to market, June 8 ..... *58
Bucket attachment handles fiber duct H. Humphries, June 29 ..... *194
Charging out cable made simpler and easier by markings on yard's surface, June 29 ..... *196
Collapsible tank stores oil during repairs, Apr. 27 ..... *55
Conveyors speed mixing, cut production costs at Ruberoid Co. V. R. Evans, Mar. 23 ..... *47
Duke Power Co.'s new form aids ordering of material, M. A. Edwards, June 1 ..... *50
EEI Annual Purchasing and Stores Committee Meeting
How utilities cut costs through "value analysis," May 25 ..... *84
Ways to check material handling expenses, June 1 ..... *60
Get . . . and keep materials under control, June 8 ..... *80
Georgia Power Co.'s minor materials system cuts cost, O. M. Campbell, Feb. 9 58
Identify dies in tool box with printed identification sheet, June 29 173
Jack adapter helps handle batteries, G. H. Irish, June 29 ..... *195
Manufacturers focus on railway car needs (N) Mar. 9 ..... *76
Mobile storeroom equips line crews of Niagara Mohawk Power Corp.—EUM report, Mar. 30 ..... *142
Ohio Edison's accurate controls aid aerial survey of coal, Zelenka & Forsyth, June 29 ..... *152
Pallet shipping cuts transformer handling costs (N) Feb. 23 ..... *119
Potomac Electric Power racks store fifty reels, J. C. Herbert, June 8 ... *62
Reynolds has light-weight cable-reel packing (N) Feb. 23 122
Roller dolly carries 167.5-kva unit, Robert Barber, June 29 ..... *174
Store bushings safely, efficiently, J. C. Herbert, June 29 ..... *194
Strapping machine for packages of coiled copper tubing ups output from 25 to 300, Mar. 23 ..... *49
Tampa Electric benefits from hauls in hopper cars (N) Mar. 23 ..... *32
Tire chains make guy wire cage—EUM report, W. C. Mitchell, Mar. 30 *122
Two-way radio speeds stores handling at Con Edison, Feb. 2 ..... *42
"Working" storage increased with high ceilings and limited floor space at Ohio Power Co.—EUM report, Ralph Hurley, Mar. 30 ..... *140

Meters and Measuring

Arnold Engineering Development Center modified meter arrangement aids load dispatches, D. J. Goodman, June 15 ..... *50
Automatic meter reading's a step nearer (N) Feb. 9 ..... *46
Consumer Power Co. takes 1.4 min to test meter, A. W. Rauth, Feb. 2 ... *44
Detroit Edison meter tests show why standards err, W. A. Greig (charts) Apr. 13 81
EEI-AEIC Meter & Service Committee meeting discusses practices (N) May 25 ..... *61
Four-way meter monitors differentials, J. E. Beehler, Jan. 12 ..... *62
GE to rent instruments (N) Apr. 13 .. 92
Handy gauge checks OCB contacts, P. R. Her, Jan. 19 ..... *40
Houston L&P wins first round in court fight to keep using demand meters in Houston (N) Apr. 6 49
Multibar seal seals time switches and meters, H. H. Koch, Apr. 27 ..... *54
New test method affords data correcting meter registrations, Thomas Pendray & others, Mar. 23 44
Polyphase varhour meter saves space, D. F. Becker, Apr. 27 ..... *66
Portable meter base speeds surveys at Idaho Power Co. W. G. Simpson, Feb. 2 ..... *42
Ultrasonic cleaning of meter parts, Mar. 16 ..... *61
Westinghouse designs all-purpose meter unit (N) May 25 ..... *88

Mexico

Gears for record breaking power program, Peter Weaver (map) Jan. 5 .. *26

Microwaves (see **Communications, Controls**)

Models

Enrico Fermi atomic power plant—model checks A-plant planning, Mar. 9 ..... *84

Motors

Indiana-Kentucky Electric replaces governor motors quickly, W. C. Pacey, Apr. 6 ..... *58

Municipal Systems

Memphis Light, Gas and Water Div. system linked with looped microwave, A. H. Grady Jr., May 4 .... *54
New York—Biggest city goes out of power business (Ed) June 1 39
New York City plants decision due (N) Mar. 2 46
New York power plant sale approved, but door is open to competing offers (N) Mar. 23 35
Springfield saves $48,000 on 3 substations, Wisleder & Wiechmann, May 4 *62
Weakley County Municipal Electric System, Tenn. plans system to duplicate KU's (N) Mar. 16 51

N

Natural Resources

"Crash program" on fish migration study sought (N) June 1 44
Idaho Power Co. Oxbow addition—migrant fish get boost with new device (N) June 1 ..... *44
Pacific Northwest Power proposes fish canal for High Mountain Sheep Dam (N) (map) Mar. 16 51
Streamflow forecasts are reliable, I. P. Krick (charts & tables) Mar. 30 .. *71
Water resources study ok'd (N) Mar. 30 64
World Meeting on New Sources of Energy planned to tap cheap energy potential (N) May 4 ..... *52

Niagara Project

Niagara hydro power project to cost New York $705 million, John Saloma, Jan. 19 ..... *34
Reservoir fight goes to Supreme Court (N) May 25 125

Northwestern Activities

BPA-Pacific G&E tie line see under **Bonneville Power Administration**
Oregon shelves State Power Commission plan (N) May 4 48
Pacific Northwest Power proposes fish canal for High Mountain Sheep Dam (N) (map) Mar. 16 51

Nuclear Power

Aggressive reactor development urged (N) Feb. 9 47
AIEE Winter General Meeting report—Two organic moderators cited, Mar. 2 47
APPA annual convention—A-power holds center stage (N) June 29 .... *92
Anderson, Sen. C. calls for truce on atomic power (N) Feb. 9 47
A-plant progress and problems—spotlight focuses again (N) Mar. 9 .... *50
A-plant "simulators" to aid training (N) May 4 51
A-plant subsidies debate looms (N) Jan. 5 24
A-plant waste disposal—permanent federal role seen (N) Feb. 16 66
AEC advisory group attempts to bridge the gap (N) Jan. 19 30
AEC drafts ten-year blueprint (N) June 22 57
AEC invites proposals for superheat reactor (N) Mar. 23 36
AEC's McCone wants more selectivity on reactor types (N) Feb. 2 ..... *34
AEC one-step reactor test strives for superheat (N) Apr. 6 47
AEC signs contract with Carolinas Virginia group (N) Feb. 2 34
Atomic power construction bill approval expected (N) May 25 59
Atomic Power Development Associates' Enrico Fermi plant—model checks A-plant planning, Mar. 9 .. *64
Atoms for Youth Conference a hit (N) May 11 ..... *36
Con Ed finds youngsters "sold" on the atom (Ed) Mar. 30 59
Consumers Power Co. slates 50-eMw nuclear plant (N) June 29 ..... *87
Duquesne Light reticent on 150-Mw output plan for Shippingport (N) June 1 41
EEI 27th annual convention—speakers see atom, government, and Soviet threat all as interrelated, Apr. 20 .. *94
Enrico Fermi Atomic Power Plant—canned valves vary coolant flow (N) Apr. 6 47
Enrico Fermi Atomic Power Plant—model checks A-plant planning, Mar. 9 ..... *64
Enrico Fermi Atomic Power Plant unique tube system (N) June 22 .... *100
Enrico Fermi plant—plug lowered in reactor (N) June 29 ..... *122
5-Mw reactor planned for General Public Utilities (N) Jan. 19 30
4th annual nuclear power report (charts & tables) Charles Hochgesang, June 22 ..... *63-82
Organic cooled reactor design can produce power cheaply, Ralph Balent, June 22 64
330-eMw PWR plant operation likely in '65, Jones & Lloyd, June 22 68
BWR's economy, potential spur development, Schanz & Imhoff, June 22 70
Nuclear superheater augurs new era, R. W. Klecker, June 22 73
Reactor studies bring definition, June 22 76
Nuclear power plant tabulations, June 22 77
Fuel cost halved, EEI Task Force estimates (N) Feb. 16 66
GE test reactor gets gas-cooled loop (N) Apr. 20 115
GETR—GE test reactor achieves criticality (N) Jan. 12 ..... *51
GPU A-plant—fuel economies goal (N) Jan. 26 ..... *162
Great Britain's Calder Hall completes first two years, J. H. M. Sykes, Mar. 30 ..... *67
Great Britain — Chapelcross A-plant joins British grid (N) May 25 ..... *58
Hanford power output eyed (N) May 4 51
Lockheed Aircraft proposes 1-Mw portable pre-packaged nuclear plant (N) June 1 ..... *41

(Ed) Editorial. *Illustrated. (N) News. (R) Reference Sheet.

Los Alamos, N.M. laboratory develops device that produces power directly from plasma thermocouple (N) Apr. 20 78
New York A-power advisors named (N) June 29 88
Nuclear costs are backed by firm data (Ed) June 22 55
Nuclear Development Corp. solves water-sodium separation problem (N) Feb. 9 72
Nuclear notes from manufacturers (N) Jan. 26 106
Nuclear superheater to be installed at Pathfinder plant of Northern States Power Co. (N) Mar. 30 161
Pathfinder Plant, focal point of discussions of nuclear power generation at Univ. of Minnesota (N) Mar. 9.. *55
Pennsylvania P&L and Westinghouse R&D project ended: "Unpopular, but sensible" (N) Jan. 5 25
Reactor studies point to 8-9 mill power (N) Apr. 13 70
SPERT-III—AEC test reactor achieves criticality (N) Jan. 12 ..... *51
States seek clear defined role on control of atomic power (N) June 1... *40
Superheat loop aids nuclear program. R. T. Pennington, June 15 ..... *45
"202" A-power hearings off to a heated start (N) Mar. 2 ..... *42
U. S. completed 37 reactors, started 45 last year (N) Jan. 12 51
Van Wyck, Allen calls for more A-power research, Apr. 13 114
Westinghouse proposes 330-Mw advanced PWR plant (N) Jan. 26.... 80
Westinghouse readies rotor for Consolidated Edison's Indian Point plant (N) June 8 ..... *84
What happened to the big reactors? (Ed) June 1 39
Yankee Atomic Electric Co. hearing set (N) Mar. 23 35

P

Poles

Counterweights aid pole setting. Chidester & Wiggins, May 25 ..... *82
Penta-treated poles endure. W. A. Ferris (chart) Mar. 23 41
PS Co. of Oklahoma uses twirlers to scare woodpeckers, May 4 ..... *61
Three ways to repair damaged poles quickly—EUM report. Robert Barber, Mar. 30 ..... *131
To keep political posters off poles (Ed) Feb. 16 61

Power Policy

Bailey, Rep Cleveland M. calls for another look at federal power and imports (N) Mar. 2 ..... *46
Bequeath of editorial policy—Bee papers (Ed) Jan. 19 27
Clapp, W. J. of Florida Power cites threat to private atom-power (N) May 11 41
Companies fail on information job: Naughton (N) Feb. 16 ..... *66
"Do it yourself"—the time is ripe (Ed) Feb. 16 61
EEI 27th annual convention—speakers see atom, government, and Soviet threat all as interrelated, Apr. 20.. *94
Idaho Power's Hells Canyon lines wheeling battle re-opens (N) May 4. 50
MVEA meeting told utilities are losing by default (N) May 18 ..... *67
New York—Biggest city goes out of power business (Ed) June 1 39
New York power plant sale approved, but door is open to competing offers (N) Mar. 23 35
N. Y. State launches power survey (N) June 15 ..... *40
Power grid proposal must be met (Ed) Mar. 16 47
Senate investigation of nation's power transmission systems—fight predicted on "giant" power-grid proposal (N) Feb. 16 64
Sen. Hubert Humphrey not "whole hog" advocate of public power (N) May 4 50
TVA bond financing bill see under **Tennessee Valley Authority**
TVA's Vogel tells American Power Conference public-private fight is wasteful, Apr. 27 ..... *50

Power Supply

BPA "dump" energy sale—study starts (N) Feb. 2 35
Missouri Valley allocations criticized (N) Feb. 23 80
World Meeting on New Sources of Energy planned to tap cheap energy potential (N) May 4 ..... *52

Public Relations (see also **Advertising**)

Annual reports are being improved (Ed) June 15 39
Busby, J. K. calls for customer acceptance—EEI 27th annual convention, Apr. 20 ..... *88
Cleveland—How CEI is helping to shape the downtown Cleveland of tomorrow (maps) (N) June 8..... *52
Companies fail on information job: Naughton (N) Feb. 16..... *66
Con Ed finds youngsters "sold" on the atom (Ed) Mar. 30..... 59
"Do it yourself"—the time is ripe (Ed) Feb. 16 61
EEI Customer Relations Committee seeks private-power backing (N) Apr. 6 47
EEI's "Power and Progress"—a big step forward (Ed) Jan. 12..... 47
Electrical Historical Foundation needs help (Ed) Mar. 9..... 49
Iowa Electric L&P booklet "Seven Ages of a City" (N) Jan. 26..... 162
LBE wins American Public Relations Association's award (N) May 25...*114
The Medallion joins collection of rare coins and medals in Portugal museum (N) June 8..... 113
Mobilizing investors for political action (Ed) May 4..... 47
New power booklets out (N) Apr. 20.. 206
Pennsylvania Power plays host to Westinghouse Electric's Transformer Div. (N) Mar. 16..... *70
Preformed's Vibration Laboratory demonstrates vibration measuring instruments for engineering students (N) Apr. 6 ..... *68
Roebling, Mary calls attention to women—EEI 27th annual convention, Apr. 20 ..... *90
"Story of Light and Sight" offered by BLBS (N) Mar. 23..... 87
Utilities unbend a bit at stockholder meetings (N) June 1..... *43
Utilities will back trips to youth meeting on atom (N) Jan. 26..... 159
Washington Water Power distributes booklet "Electricity—How It Is Put to Work" (N) Jan. 26..... 162
Washington WP and Georgia Power Co. donations will benefit local areas (N) Apr. 6 47
What to do when storm strikes, June 8.*103
Wisconsin P&L holds a series of "hard to beat" stockholder meetings, Feb. 9 ..... *48

Public Utility Districts

Grant County PUD to open Wanapum Dam bids on May 8 (N) Mar. 30... 63
SMUD: fair value depreciation (charts) Jan. 5 51
Winder, C. A. urges broader power for PUD's (N) Mar. 23 ..... *46

Purchasing

Advance buying argued at PA meet, Mar. 23 ..... *37
EEI Annual Purchasing and Stores Committee Meeting
How utilities cut costs through "value analysis", May 25..... *84
Ways to check material handling expenses, June 1 ..... *60
Get, use and keep materials under control, June 8 ..... *80
Procurement and Products (Ed) May 25 55
Report on heavy equipment—"Buy & Store" plan can cut costs (charts) May 4 93
Report on heavy equipment—Order now or risk late delivery (charts) Feb. 2 63
Report on purchasing — the utility purchasing agent, Apr. 20..... *189
Turbine, boiler orders mount; "Buy and Store Plan" saves $8 (table) (N) Apr. 27 74

R

Radio (see **Communications**)

Reclamation Bureau

Missouri Valley allocations criticized (N) Feb. 23 80

Rectifiers

AIEE Winter General Meeting report —put diode failure rate below 2%, Mar. 2 55
Allis-Chalmers makes high-voltage silicon rectifier system (N) Feb. 16. *86
I-T-E Circuit Breaker builds 3500-kw silicon rectifier (N) Apr. 20.....*110
Westinghouse exciter eliminates brushes (N) June 15 ..... *64

Regulation and Rates

Duquesne Light requests special heating rate (N) Mar. 9..... 96
EEI 27th annual convention—experts examine future problems of rates, system planning, and finances (chart) Apr. 20 ..... *96
Indiana court reinstates dual standard returns for utilities—decrees that PSC doesn't have jurisdiction over co-op loans (N) Jan. 19..... 28
Montana pay to Indians hiked (N) May 25 60
N.Y. PSC trims Niagara Mohawk Power rate hike bid (N) June 8.... 56
Ohio Edison hike approved (N) June 29 201
Ohio retains "RCN" for rates (N) June 1 42
Oregon suspension hurting rates of return for two utilities, Union Electric hit by delay, Houston Lighting enmeshed in a demand meter wrangle (N) Mar. 16 48
PEPCO increase provides 5.85% return (N) May 11 40
Rate hike bids hit some roadblocks (N) Mar. 16 48
Report on rates and regulation—California PUC hears arguments on liberalized depreciation, Jan. 12..... 91
Report on rates and regulation—Hard look at regulatory climate, Feb. 9.. *75
Report on rates and regulation — Which way with section 167? June 1 69
State commissions in Michigan and New York trim rate hike requests (N) June 22 58
Stricter rules for the regulators (Ed) June 22 55
Three rate cases settled; PS Co. of New Hampshire and New Hampshire Electric Co.; St. Joseph L&P; Mountain States Telephone & Telegraph Co. (N) Apr. 6..... 49
Three rate decisions set some new precedents: Bangor Hydro-Electric ordered to take liberalized depreciation; Iowa-Illinois G&E asks rate increase; Wyoming PSC uses Black Hills P&L system-wide earnings in setting rate of return (N) Feb. 9.. 16

Regulators

Kansas P&L uses indoor regulators at outdoor site, June 29..... *176

Relays

Adequate industrial relaying means three-way engineering teamwork. M. A. Bostwick, Feb. 9 ..... *54
AIEE Winter General Meeting report —Gives carrier relay parameters, Mar. 2 50
Illinois Institute of Technology's relay conference, June 8 ..... *107
Local back-up relaying protects system of Northern States Power. K. K. Dols, Feb. 2 ..... *38
Mountainside reflector directs microwave to El Paso building. Corbell & Stuart, June 8 ..... *60
Normal relay settings handle cold load R. S. Smithley (charts & tables) June 15 52
Pennsylvania Electric relay scheme checks synchronism. William Turner, Feb. 23 ..... *81
Two companies unveil static relays—Allis-Chalmers: overcurrent relay; GE: phase-comparison relay (N) May 11 ..... *58

Research

ASME stresses fuel research, Jan. 26.*104
Anaconda Wire & Cable new extra-high-voltage research lab aims at 345-kv cable, Apr. 27 ..... *72
Anaconda Wire & Cable opens 345-kv lab (N) Apr. 13 ..... *92
Coal-fired gas turbines for utility plants research pushed (N) Mar. 16. 67
Cold-cathode tube use foreseen for control and radio (N) Feb. 2..... 51
Federal Pacific's T. M. Cole founds college research (N) Mar. 30..... 161
GE's project EHV construction begins; test plans set. P. A. Abetti (map) June 15 48
GE's $7.5-million "Project EHV" started (N) June 8..... *56
GE's Project EHV—varied tower materials compose power line (N) Jan. 26 160
Ohio Edison using Dynalab (N) Feb. 2 51
Pennsylvania P&L and Westinghouse R&D project ended: "Unpopular, but sensible" (N) Jan. 5 25
University of Idaho starts research for longer dam gate life (N) Apr. 20. 206
Van Wyck, Allen calls for more A-power research, Apr. 13..... 114
Westinghouse has more thermoelectric devices (N) Apr. 20..... 186

Right-of-Way

Brush seals tree wounds after trimming, Mar. 9 ..... *74
Helicopter gives high degree of brush kill for Potomac Edison Co. Brown & Dolton, June 29 ..... *179
Joint Committee would ease relocation problems (Ed) June 8..... 51
Ohio Power uses waste oil to help cut brush control costs. A. M. Cullen, June 1 51
Report on relocations and right of way (map) June 15 75
TCA controls conifer growth economically. J. M. Bennett (charts) May 18 74

(Ed) Editorial. *Illustrated. (N) News. (R) Reference Sheet.

Rural Electrification Administration

Administrator Hamil hails success story of REA co-ops (N) May 4.... 48
Agriculture Sec. Benson's bank plan blasted by Sen. Aiken (N) June 1... 42
Celebrates 25th anniversary next year (N) May 25 123
President Eisenhower vetoes "REA reorganization bill", Senate overrides it (N) May 4 49
Re-organization clears House (N) Apr. 27 ..... *45
Report on REA co-ops (charts & tables) May 18 119
REA-financed systems (tables) Feb. 23 97

Russia

Russia claims new heating element (N) Mar. 23 87

S

Safety

Blinker lights protect workmen at Detroit Edison. L. P. Belletini, Apr. 20 ..... *81
Electric Power Board of Chattanooga adopts "breath of life" resuscitation. H. G. Tripp, June 29..... *188
Fiberglass ladder promotes safety at Cleveland Electric Illuminating Co. H. Drees, June 29..... *192
Field defibrillation seen nearer (N) June 8 57
Handle overhead jobs safely with extended stick—EUM report. Erroll Dunbar, Mar. 30 ..... *137
Memo to utility management—check your safety program (Ed) May 18.. 61
Mobile shoe store ups safety record for Cincinnati G&E, May 18..... *74
Plastic cover for cutouts protects utility linemen (N) Feb. 23..... *122
Proper grounding reduces hazards. A. Elek, Feb. 16 ..... *78
Rubber hood covers energized cutouts at Cincinnati G&E. E. E. Davis, June 29 ..... *191
Skinning knife locks closed—EUM report. E. S. Kraus, Mar. 30..... *139
To keep political posters off poles (Ed) Feb. 16 61

Sales and Promotion

All-electric home—A total commitment (Ed) Apr. 27..... 43
Atlantic City Electric electric cooking display (N) Feb. 23..... 147
Bright outlook on output (chart) (N) June 8 55
Carolina P&L offers service to housewives—"Money Management" (N) Mar. 7 96
Central P&L offers Housepower Box to stimulate appliance sales, May 11 *92
Cincinnati G&E stages "Magic Carpet" NEW show (N) Apr. 27..... *48
Commercial Cooking survey (charts & tables) Jan. 12 ..... *57-62
The Connecticut Light & Power street lighting story. R. E. Ballard, Apr. 13 *72
Consolidated Edison of N. Y. launches modern kitchen promotion (N) Apr. 20 186
Detroit Edison's vice president E. O. George urges commercial cooking program (N) June 15..... 88
Duquesne Light requests special heating rate to encourage all-electric home (N) Mar. 9..... 96
EEI begins local-level promotion for NELP (N) May 18..... 138
EEI Gilbert study—report on all-electric service—What's best for military housing? (table) Jan. 19..... 63
EEI Sales Promotion Awards deadlines near (N) Jan. 26..... 149
EEI Twenty-Fifth Annual Sales Conference accents electric heating, Mar. 30 ..... *65
EEI 27th annual convention—George, Ed, and C. M. Wallace, Jr. call attention to sales (chart) Apr. 20.... *91
Electric range information center established (N) Feb. 23..... 145
Eye-Fi Relighting gets industry support (N) Jan. 12..... 75
Federal Pacific realigns sales, marketing staff (N) Jan. 26..... 108
Florida Power cops LBE contest (N) Jan. 5 ..... *64
Future for street lighting sales is unlimited (Ed) May 4..... 47
GE develops comparative lighting kit (N) June 22 ..... *125
Georgia Power Merchandise Sales plan (N) May 18 138
"Give Better Electrically" spring promotion planned (N) Apr. 20..... 186
Heating passes rough winter test with flying colors (N) Mar. 2..... 44
Hotpoint Co. launches appliance tour (N) June 8..... *113
Housepower Program plans big spring push (N) Mar. 9..... 96
How 22 manufacturers view 1959 (N) Jan. 5 29
Industry promotion to hit "big time" (Ed) Mar. 23..... 31
Iowa Electric L&P Co. Lite-Kit for salesmen (N) June 8..... *112
It's time for electric heat to grow up! Glydewell Burdick, June 29..... *209
Kansas G&E promotes Friendship Lantern (N) Apr. 20..... *136
Kansas P&L pushes its Twiliter (N) Apr. 20 ..... *136
Lack of electric heat promotion scored (N) Feb. 23 146
Light for Living prize winners receive cash awards (N) June 8..... *112
LBE wins American Public Relations Association's award (N) May 25... 114
Look Magazine Adequate Wiring Awards to Baltimore G&E and United Illuminating Co. (N) Mar. 2 81
Mineral Wool Assn. offers electric heating folders (N) Jan. 26..... 149
National Electrical Week—Pearl Street Station site....1959 (Ed) Feb. 9... *43
National Electrical Week promotions focus on electricity's benefits to nation (N) Feb. 9..... *44
National Wiring Bureau trade ally booklet (N) Mar. 2..... 83
Preformed Line Products issues Armor-Grip data (N) Jan. 5 43
Reddy Kilowatt is 25 years old, Feb. 16 ..... *107
SEE confers on utility problems (N) Jan. 5 64
Sales programs must be stepped up (Ed) June 15 39
TESCO display attracts 145,000 (N) Mar. 23 ..... *87
Table-settings-housewares promotion devised by Better Homes & Gardens Magazine (N) Apr. 27..... 91
"T-H Index" should aid utilities (Ed) June 29 55
Total - electric home promotion launched by Westinghouse (charts) Jan. 19 32
Union Electric heating presentation stresses comfort (N) Jan. 26..... 149
Utilities told to stress salesmanship June 22 125
West Penn Power Co. decorates all electrically heated homes with sign (N) May 25 114
Westinghouse expands Power Up program (N) Jan. 19..... 51
Westinghouse sees rise in orders (N) Apr. 13 92
Westinghouse's "Total Electric Home": a giant step (Ed) Feb. 2..... 31
Why heat pump is your best bet. Reid Gardner, Mar. 16..... *62
Wisconsin Electric Power LBE contest deemed a success (N) June 15. 88

Securities & Exchange Commission

EEI brief opposes SEC accounting proposal (N) Apr. 20..... 79
Proposes changes in accounting procedure (N) Feb. 9..... 50

Solar Energy

World Meeting on New Sources of Energy planned to tap cheap energy potential (N) May 4..... *52

Standardization

Change standards to reflect "ampacities." L. F. Murray (charts & table) Feb. 16 74
Charts aid capacitor fuse selection. H. C. Stone (R) Feb. 9..... 62
NEMA Overhead Distribution Connector Group issues first standard (N) Jan. 12 78
Service voltage recommendations hold promise (Ed) Apr. 6..... 43
Standards must pace new products (Ed) Apr. 27..... 43

Statistics

Appliances. Ted Weber (tables) Feb. 23 94
Average use (tables) Feb. 23..... 84
Average wages (table) Jan. 26..... 98
Bright outlook on output (chart) (N) June 8 55
Canadian construction and expenditures (tables) Jan. 26..... 94
Capacity—changes in installed generating capacity — Mw (nameplate) (tables) Feb. 23..... 99
Capacity—generating capacity by ownership-Mw (tables) Feb. 23..... 89
Capacity—installed capacity by type of prime mover-Mw (tables) Feb. 23 89
Capacity—number and installed capacity of electric utility generating plants by states and type of prime mover—Kw (table) Feb. 23..... 100
Capacity additions reported to Electrical World—Kw (tables) Feb. 23. 101
Construction expenditures—thousands of dollars and total U. S. (charts & tables) Jan. 26 85
Customers (tables) Feb. 23..... 86
EEI's 25th Semi-Annual Electric Power Survey (charts & table) May 25 103
Electrical World industry statistics 55th annual report. A. J. Stegeman (charts & tables) Pt. I, Jan. 26...83-98
Pt. II, Feb. 23.....83-114
Energy production (tables) Feb. 23.. 88
FPC ups estimates, sees 421-million kw capacity in 1980 (N) June 29... 89
Fuel—consumption of coal, oil and gas (table) Feb. 23..... 98
Fuel—production, capacity, average use (table) Feb. 23..... 98
Maintenance — thousands of dollars (charts & tables) Jan. 26..... 93
Manufacturing (charts & tables) Feb. 23 90
Revenue (tables) Feb. 23..... 86
REA-financed systems (tables) Feb. 23 97
Sales (tables) Feb. 23..... 84
Station economics (table) Feb. 23..... 98
Transmission and distribution construction (tables) Jan. 26..... 90
Transmission and distribution expenditures—thousands of dollars (tables) Jan. 26 88
Transmission and distribution line construction (charts & tables) Jan. 26.. 92
Utility plant, revenues, net hit new tops (charts & tables) Jan. 26..... 96

Steam Stations (see also **Capacity Additions**)

Allen, Thomas H. Electric Generating Station sheathed with porcelain on aluminum (N) June 22..... *102
AEP Philip Sporn Power Plant's 138-kv switchyard keeps pace. H. B. Margolis, Feb. 9..... *51
APPA cites steam plant gains, Mar. 16 66
Combined gas-steam turbine cycle offers plant savings. I. J. Karassik, Mar. 9 ..... *60
Detroit Edison's River Rouge Unit No. 3 hits record output (N) Feb. 9.... 70
Detroit Edison St. Clair Power Plant—kin of Detroit Ed pioneer starts new unit (N) May 11..... *46
Duke Power Co.'s Allen Plant builds for five units with 1,200-Mw capacity in 1961. J. Q. Wray Jr., Apr. 6..... *56
Kansas City P&L's mine-mouth Montrose plant pays off. J. A. Keeth, May 4 ..... *57
Louisiana L&P's Little Gypsy station will be first completely automatic steam power plant with digital computer control (N) Mar. 23..... 55
Ohio Edison shares benefits of joint planning for new Stratton Plant, dam and lock project, road improvement. Carnegie & Foote, Mar. 23.. *38
TVA opens bids on big steam units (N) June 22 57
TVA's Johnsonville plant—failure of transformer bank (N) Jan. 26..... 78
TVA's Widows Creek No. 7, 500-Mw unit, largest yet ordered in U.S.A. now under construction. R. M. Gardner, May 18 ..... *70
Wisconsin Electric Power Co. raises Oak Street Station efficiency 0.5% with full size turbine-driven and half-size motor-driven boiler feed pump, Apr. 20..... *175

Storms

Midwest, Memphis hit by storm; linemen handle the unusual with aplomb (N) Mar. 23..... *34
Storms and equipment failures pose system problems (N) Jan. 12..... *78
Storms, floods harass utilities again (N) Feb. 23 ..... *78
Union Electric Co.'s disaster plan meets tornado trial (N) Mar. 9.... *53
Utilities escape brunt of flood havoc in Pennsylvania and Ohio (N) Feb. 2 ..... *32
What to do when storm strikes, June 8 ..... *103

Substations

AIEE Winter General Meeting report—Substation design needs revision, Mar. 2 50
Aluminum structures support aluminum bus at Philadelphia Electric. Einwechter & Glover, Mar. 9..... *58
Blaw-Knox towers and substations to be installed on roofs at Youngstown Sheet & Tube (N) Jan. 26..... 114
Connecticut L&P receives mobile substation (N) June 29..... *122
Improved methods cut industrial substation costs at Houston L&P. W. W. Trimmier, Apr. 27..... *56
Louisiana P&L carrier operates on insulated shield wire of H-frameline. Deloney & Davey (tables) May 11.. 42
Moloney Electric develops flexible substations (N) May 11..... *60
National Landscaping Award won by Connecticut L&P for Weston substation (N) Jan. 19..... *70
Philadelphia Electric's bucket auger speeds substation pier work. W. S. Reese, June 29..... 162
Point system determines substation oil plant for BPA, Mar. 23..... *51
Proper grounding reduces hazards. A. Elek, Feb. 16..... *78
Randolph Electric orders first rural aluminum substation (N) June 15.. 68
South Carolina E&G's McMeekin substation—split-bus adopted. E. P. Miller, Apr. 6..... *50
Special members cut structure cost at Gastonia, N. C. R. Van Sleen, Jan. 19 ..... *41

(Ed) Editorial. *Illustrated. (N) News. (R) Reference Sheet.

Springfield saves $48,000 on 3 substations. Wisleder & Wiechmann, May 4 *62
Temporary substation bus aids service continuity at Appalachian Power Co. J. B. Doss, Apr. 6 *54
Terminal boxes replace insulators at ELIN Co. installations, June 8 *71
Vacuum switch interrupts 230 kv for Arizona PS Co. W. E. Campbell, June 8 *76
What's new in design, building?
Aluminum bus saves in substation design. Weber & Fossum, May 25 *62
Dual cooling ups bank rating for emergency. Kelly & Progler, May 25 *64
T-type structure goes up fast. H. McComb, May 25 *66
Expulsion breaker protects sub. H. H. Strozier, May 25 *68
Automatic ground switch protects tapped sub. R. T. Culberson, May 25 *70

Switches and Switching

AEP Philip Sporn Power Plant's 138-kv switchyard keeps pace. H. B. Margolis, Feb. 9 *51
Automatic ground switch protects tapped substations on Florida P&L system. R. T. Culberson, May 25 *70
Disconnecting switch built for 345-kv (N) May 4 *80
Double side-break switch developed for 345-kv (N) June 8 *86
Improved tap changer saves space. G. A. Wilson, Mar. 16 62
Logic static switching promises better industrial load control. Fox & Wise (charts) June 29 *98
Utilities study SFe as interrupting medium. A. P. Strom (charts) Feb. 2 *40
Vacuum switch interrupts 230 kv for Arizona PS Co. W. E. Campbell, June 8 *76

System Engineering

Duke Power Co.—230-kv transmission expansion inevitable. F. W. Beyer (map & chart) Feb. 16 68
EEI 27th annual convention—experts examine future problems of rates, system planning, and finances (chart) Apr. 20 *96
IBM computer speeds bus design for American Electric Power Service Corp. C. A. Imburgia & others, Jan. 12 56
I-T-E doubles scope of power network analyzer (N) Jan. 12 76
New analytical tools permit integrated system planning. Kirchmayer & Melbor (charts & table) June 1 52
Texas loads continue mounting (chart) Jan. 5 38

T

Taxes

California PUC hears arguments on liberalized depreciation, Jan. 12 *91
California tax assessment fight heads for stalemate (N) June 1 44
ECAP ad issues unresolved (N) Jan. 12 49
EPC ad ruling "unjustly discriminatory" says A. J. G. Priest (N) Mar. 9 *54
IRS expands easement ruling (N) May 11 39
New York PSC orders actual taxes be used for liberalized depreciation (N) Apr. 13 71
The power companies' troubles (Ed) Apr. 13 65
Report on rates and regulation—which way with section 167? June 1 69
Utilities press for tax equalization (N) Mar. 30 60

Television

Closed circuit TV checks on boiler water levels (N) Jan. 26 161
Rochester G&E pre-filmed storm aid adds TV impact (N) Mar. 30 *63

Tennessee Valley Authority

Approval of British contract scored by Westinghouse, GE (N) Feb. 16 64
Bond bill passed by House unit (N) Mar. 23 36
Comptroller General unveils difficulties with turbo-generators (N) Jan. 26 78
Dent, Rep. John joins attack on heavy equipment imports (N) Mar. 9 54
Economist scores TVA's scope (N) Jan. 12 49
Johnsonville-Lawrenceburg line to have 460-kv, 7-mi. section (N) Mar. 23 35
Opens bids on big steam units (N) June 22 57
Sen. Kefauver says he'll investigate identical bids (N) June 1 42
Skirmishing continues on TVA frontier (N) Apr. 6 *44
Transformer swap helps TVA meet peak as Memphis unit loses vacuum (N) Jan. 26 78
Veto probable on bond financing bill as it stands now (N) May 18 66
Widows Creek No. 7, 500-Mw steam unit, largest yet ordered in U.S.A. now under construction. R. M. Gardner, May 18 *70

Testing and Tests

Bell device safely tests 2.4-kv lines for Baltimore G&E. J. H. Winter Jr., June 22 *88
Built-in dc supply aids telemeter test. Yarker & Mraz, Mar. 16 *60
Bureau of Reclamation tests check lightning, relaying, spur 230-kv line adjustments. J. O. Grimm (map) Apr. 13 *76
Central Maine Power field testing of transformer oil proves accurate. William Lajousky, June 15 *50
Consumer Power Co. takes 1.4 min to test meter. A. W. Rauth, Feb. 2 *44
Doble reports improved oil tests (N) Mar. 9 55
GE installs balance testing facility (N) Mar. 16 70
Isotopes chart cooling water flow in Australia, June 22 *87
Jasper Blackburn Corp.'s precision lab proves connector designs (N) Apr. 6 *70
Kansas G&E lab tests photo-electric cells quickly. Apr. 20 *81
New test method affords data correcting meter registrations. Thomas Pendary & others, Mar. 23 *44
Nuclear Development Corp. solves water-sodium separation problem (N) Feb. 9 72
Pennsylvania Electric Co.'s 460-kv test line—suppliers share costs (N) Apr. 20 *110
Potential detector checks metalclad circuits at Baltimore G&E. W. P. Taylor, May 18 *75
Test condenser tubes electronically. Maretzo & Cleary, Mar. 2 *57
Test instrument transformer condition. F. R. D'Entremont, Feb. 9 *56
Truck provides substation test facilities for Public Service Co. of Colo. Class & Raglin, Jan. 12 *63
West Penn Power's Go-No-Go unit locates faults quickly in telemeter channels. W. A. Baisley, June 29 *170
Westinghouse expands capacity of hi-power lab (N) Mar. 30 160

Transformers

Aluminum tank revealed (N) Feb. 9 *66
Aluminum transformer shows promise. D. F. Winter, Mar. 16 *63
AIEE Winter General Meeting report—Gas cooled has promise, Mar. 2 *54
Amines boost transformer capability. E. W. Tipton (chart) June 22 92
Can self-regulating transformers improve service or cut costs? E. L. Leinbach (charts) Apr. 6 52
Chief Joseph Dam transformer suffers winding failure (N) Jan. 26 78
Distribution transformers surpass ASA guides. M. F. Beavers (charts) Feb. 16 *70
Dry unit simplifies structure at Dairyland Electric Cooperative's Alma steam plant. B. K. Kanga, June 29 *110
Dual cooling ups bank rating for emergency at PE's Eddystone Station. Kelly & Progler, May 25 *64
Enter the aluminum transformer (N) Jan. 19 *48
GE adopts flat-type transformer tubes (N) Feb. 16 86
GE—new transformers carry 20% extra peak load (N) June 1 63
GE realigns prices on three transformers (N) Feb. 2 51
GE ships 10 Mva gas-filled transformer (N) Jan. 12 *76
Inner-cooled transformer on line at New York State E&G (N) Feb. 9 *66
Iowa P&L underground planned to take load growth. H. G. Hally, Mar. 9 *69
Kuhlman Electric to introduce new line of power transformers (N) Jan. 19 52
Mobile transformer to serve 18 Pacific G&E substations (N) Feb. 23 *119
Modify aerial transformers for vaults. C. M. Broom, Jan. 26 *81
Moloney Electric builds 217-Mva transformer (N) May 4 *76
"No-tap" transformers pay off on Louisiana P&L distribution system. H. L. Deloney, May 18 76
Pallet shipping cuts transformer handling costs (N) Feb. 23 *119
Pennsylvania Transformer ships its largest unit—315 Mva (N) June 8 *84
TVA's Johnsonville plant—failure of a transformer bank (N) Jan. 26 78
Test instrument transformer condition. F. R. D'Entremont, Feb. 9 *56
Transformer bracket supports delta connections. Harris, Jr & Lombard, Mar. 23 *54
Two portable transformers aid changeovers at Savannah E&P—EUM report. D. E. Galennie, Mar. 30 *120
Underground transformer developed by Ferranti (N) Jan. 12 *79
Uptegraff's 10-Mva units shipped ready for service (N) May 4 *76
Use wrong-size CT's for emergencies. W. J. Wright, June 8 *63
Westinghouse unveils new transformer plant (N) Apr. 6 *68

Transmission

AIEE Winter General Meeting Report—Mechanical problems stressed, Mar. 2 *48
American Air Surveys method saves on transmission planning. J. A. Frank, Mar. 16 *59
American Electric Power armless poles carry 69-kv line. R. L. Retallack, Jan. 5 *31
Armor-Grip suspends 230-kv lines (N) Jan. 26 *161
Blaw-Knox towers and substations to be installed on roofs at Youngstown Sheet & Tube (N) Jan. 26 114
BPA-PG&E intertie see under **Bonneville Power Administration**
Bringing creative approaches to tower design (Ed) Mar. 16 47
Bureau of Reclamation tests check lightning, relaying, spur 230-kv line adjustments. J. O. Grimm (map) Apr. 13 *76
Central Vermont PS Corp. line sale ok'd (N) May 25 60
Change standards to reflect "amparities". L. F. Murray (charts & table) Feb. 16 74
Commonwealth Edison to try all-aluminum towers (N) June 15 43
Connecticut L&P "shoehorns" 4 circuits into 80-ft right-of-way. Humphries & Dean, June 29 *149
Consolidated Edison Co. will link Indian Point with system with 230-kv transmission line, Apr. 27 *67
Creep—How to gauge effect of creep. G. H. Phillips (charts & table), Mar. 9 56
Creep lengthens sag by 2 ft. W. L. Rush, Mar. 9 57
Czechoslovakia finishes first leg of 400-kv grid (N) Jan. 19 70
Duke Power Co.—230-kv. transmission expansion inevitable. F. W. Beyer (map & chart) Feb. 16 68
Enamel signs aid in tower identification. Green & Chase, Mar. 23 *54
France meets increased demands with integrated network, daring hydro designs. Arthur Erickson (map) June 22 *60
GE's project EHV construction begins; test plans set. P. A. Abetti (map) June 15 48
GE's $7.5-million "Project EHV" started (N) June 8 *56
GE's Project EHV—varied tower materials compose power line (N) Jan. 26 160
Ice loading nomogram for wire or cable. R. P. Buckingham (R) Jan. 12 70
Iowa P&L composite chart speeds line design. E. E. Campbell, Mar. 2 60
Kansas City P&L new 161-kv line is adaptable to bundling. F. W. Shaw, June 8 *64
Los Angeles Dept. of Water and Power—high-strength insulators at California's Rio Hondo golf course towers. Currie & Pann, June 8 *62
Mexico gears for record breaking power program. Peter Weaver (map) Jan. 5 *26
Muskeg needs special tower footings. J. O. Tonning, June 29 *94
New tower designs aim at lower costs (N) Mar. 16 *67
Northwest-California systems' link—caution urged (N) Mar. 30 62
Pacific G&E offers San Joaquin Valley plan (N) Mar. 30 *62
Pennsylvania Electric Co.'s 460-kv test line—suppliers share cost (N) Apr. 20 *110
Pennsylvania Electric Co. plans 460-kv experiment (N) (map) Apr. 13 67
Philadelphia Electric gets go-ahead on line between A-plant and Maryland (N) Mar. 30 62
Philadelphia Electric modernizes shield wire design, Jan. 12 *66
PS Co. of Oklahoma uses twirlers to scare woodpeckers, May 4 *61
St. Lawrence cable failure followed by curtailment (N) Feb. 2 33
Senate investigation of nation's power transmission systems—fight predicted on "giant" power-grid proposal (N) Feb. 16 64
Single-pole reclosers protect 46-kv lines of Consumers Power Co. (N) Feb. 9 70
TVA's Johnsonville-Lawrenceburg line to have 460-kv, 7-mi. section (N) Mar. 23 35
Transmission and distribution construction (tables) Jan. 26 90
Transmission and distribution expenditures—thousands of dollars (tables) Jan. 26 88
Transmission and distribution line construction (charts & tables) Jan. 26 92
Vermont PSC orders state transmission study (N) June 8 54
Western Mass. Electric towers designed for minimum height (N) May 11 *60

(Ed) Editorial. *Illustrated. (N) News. (R) Reference Sheet.

Trucks and Trailers (see also **Materials Handling**)
Boom cleaas insulaters at California Electric Power Co., June 29..... 173
Cleveland Vehicle expands electric truck output, takes a closer look at car potential (N) Feb. 16..... *65
Dunnage truck controls scrap, June 29 195
EEI Automotive and Mobile Equipment Committee meeting (N) May 4 *53
Extension levers on line trucks improve winch control. D. M. Burton, Feb. 16..... *73
Powering truck radios through piggyback generator saves gasoline for Indiana & Michigan Electric—EUM report. D. E. Shuck, Mar. 30..... *124
Pumping truck empties manholes on Detroit Edison system. F. C. Marschner, Apr. 13..... *84
San Antonio Public Service Board enclosed truck provides crew comfort, Mar. 9..... *74
Service street lights with special truck —EUM report. F. M. Cox, Mar. 30.. *129
Special truck pulls and handles cable easily—EUM report. F. C. Marschner, Mar. 30..... *113
Tandem trailer carries 40-Mva mobile transformer at Pacific G&E, June 1. *50
Three-way dump trucks backfill trenches with minimum traffic interference for Indianapolis P&L—EUM report, Mar. 30..... *116
Trailer-mounted rig pulls and cuts cable automatically at Baltimore G&E. Bechtel & Keene, Apr. 27.... *54
Truck provides substation test facilities for Public Service Co. of Colo. Class & Raglin, Jan. 12..... *63
Wisconsin Electric Power special generator supplies power for crews, Feb. 16..... *72

Turbines
Combined gas-steam turbine cycle offers plant savings. I. J. Karassik, Mar. 9..... *60
Comptroller General unveils TVA difficulties with turbo-generators (N) Jan. 26..... 78
Detroit Edison's River Rouge Unit No. 3 hits record output (N) Feb. 9... 70
English Electric and British government protest turbine award to Baldwin-Lima-Hamilton as violation of Buy-American Act (N) Feb. 2..... 35
Gas turbine remote controlled (N) Mar. 2..... 62
Gas turbines will firm up B.C. hydro (N) June 29..... 90
GE develops gas turbine for utility peaking service (N) Mar. 30..... *160
GE has order for 200-Mw unit from New England Power to ship in 2.7 years (N) Feb. 9..... 66
GE installs steam turbine balance test facility (N) Mar. 16..... 70
Metropolitan Edison to be fourteenth utility to be furnished BFP turbines (N) Jan. 26..... 114
New Orleans Sewerage & Water Board orders 20-Mw gas turbine for peaking (N) Mar. 9..... 82
Orders mount; "Buy & Store Plan" saves $s (table) (N) Apr. 27..... 74
Parsons, C. A. & Co. Ltd. low bidder for TVA 500-Mw T-G set (N) Jan. 26 160
Philadelphia Electric study starts on gas turbines, diesels (N) May 11.. 38
Report on heavy equipment—Order now or risk late shipment (charts) Feb. 2..... 63
Research pushed for coal-fired gas turbines for utility plants (N) Mar. 16. 67
Turbine "building blocks" meet future needs. H. R. Reese, June 29..... *96
Unbalance is chief vibration cause in large units. J. R. Lindsey, Apr. 13. *78

V

Voltage Regulation
Current readings check voltage balance at Central P&L, Apr. 20..... *82
EEI T&D men debate utilization voltages (N) Mar. 16..... *53
Industrial plant voltage dips can be alleviated 4 ways, Bailey & Knable (charts) Mar. 16..... 56
Service voltage recommendations hold promise (Ed) Apr. 6..... 43

W

Welding
Aeroprojects design line of ultrasonic welders (N) Feb. 9..... 72
Welding data for aluminum bus, connectors (R) May 18..... 73
Welding installation data for generator leads (R) Apr. 20..... 102
Welding installation data for switchyard bus (R) May 4..... 72

Wiring
Anaconda opens wire plant in Georgia (N) Jan. 12..... 76
Central P&L offers Housepower Box to stimulate appliance sales, May 11.. *92
Kaiser cuts prices of aluminum rigid conduit (N) Mar. 2..... 62
Look Magazine Adequate Wiring Awards to Baltimore G&E and United Illuminating Co. (N) Mar. 2. 81
National Wiring Bureau trade ally booklet (N) Mar. 2..... 82
Pittsburgh Standard enters aluminum conduit field (N) June 15..... 68
Take a new look at inadequate wiring (Ed) May 18..... 61

(Ed) Editorial. *Illustrated. (N) News. (R) Reference Sheet.

AUTHOR'S INDEX

ABETTI, P. A.: Project EHV construction begins; test plans set, June 15. 48
Albertson, L.: Maintenance, absenteeism drop in textile plant, Mar. 23. *49
Alden, Glen J.: Dip tank cuts production cost, boosts business, June 8. *67
Heaters keep baler working through winter, Feb. 2. *50
Allshouse, R. L. & others: Devise rig to lift 165-ton stator, Jan. 5. *34
Amchin, H. K. & others: Computer speeds bus design, Jan. 12. 56
Anderson, A. S.: Why 240/416-v service is best, May 18. 86
Anderson, C. B.: Sander improves gasketed joints, Jan. 5. *37
Andrews, D. L.: Save $11.79 per kva with 34.5-kv distribution, Apr. 13. *74

BAILEY, B. G. & A. H. KNABLE: Industrial plant voltage dips can be alleviated 4 ways, Mar. 16. 56
Balent, Ralph: Organic cooled reactor design can produce power cheaply, June 22. *64
Ballard, R. E.: The Connecticut Light & Power street lighting story, Apr. 13. *72
Balsley, W. A.: Locate faults quickly in telemeter channels, June 29. *170
Barber, Robert: Roller dolly carries 167.5-kva unit, Jun+ 29. *174
Three ways to repair damaged poles quickly, Mar. 30. *131
Bartlett, C. H.: Puts aluminum plant use at 75 billion kwhr in 1968, Apr. 27. 102
Baylis, Wesley C.: Device phones in remote alarms orally, Jan. 5. *36
Beavers, M. F.: Distribution transformers surpass ASA guides, Feb. 16. *70
Bechtel, C. B. & J. R. Keene: Rig pulls and cuts cable automatically, Apr. 27 *54
Becker, Dale F.: Polyphase varhour meter saves space, Apr. 27. *66
Beehler, J. E.: Four-way meter monitors differentials, Jan. 12. *63
Belletini, L. P.: Blinker lights protect workmen, Apr. 20 *81
Bennett, J. M.: TCA controls conifer growth economically, May 18. 74
Beyer, F. W.: 230-kv transmission expansion inevitable, Feb. 16. 68
Bidding, J. A.: Electric way reduces maintenance and fumes, June 8. *68
Bither, H. A.: Rubber-plastic spacer speeds installation of services, June 29. *170
Bodeman, Leroy J.: Guides reduce storage battery costs, Pt I June 1-86, Pt II June 15-59, Pt III June 29. 100
Bostwick, M. A.: Adequate industrial relaying means three-way engineering teamwork, Feb. 9. *54
Bouldin, W.: Says Alabamans back private hydro project, Apr. 27. 103
Bowe, Edward F.: Aluminum-clad conductors replace steel at crossings, Feb. 9 *56
Brady, Bryce & others: Single-phase serves residential air conditioning better, cheaper, Jan. 19. 38
Brake, B. H.: Magnetic map locates trucks, Apr. 20 *82
Brant, E. B.: Tests show aluminized guys effective, June 8. 71
Brinton, R. L.: Carrier links plants with four voice channels, Feb. 16. *72
Broom, C. M.: Modify aerial transformers for vaults, Jan. 26. *81
Brown, S. H. & R. L. Dolton: Copter gives high degree of brush kill, June 29. *179
Buckingham, R. P.: Ice loading nomogram for wire or cable, Jan. 12. 70
Buettner, Emil F. & others: Single-phase serves residential air conditioning, better, cheaper, Jan. 19. *38
Burdick, Glydewell: It's time for electric heat to grow up! June 29. *209
Burton, Donald M.: Extension levers improve winch control, Feb. 16. *73

CAMPBELL, EARL E.: Composite chart speeds line design, Mar. 2. 60
Campbell, Orbie M.: Minor materials system cuts cost, Feb. 9. 58
Campbell, W. E.: Vacuum switch interrupts 230 kv, June 8. *76
Carnegie, A. & J. H. Foote: Utility, other agencies cooperate in Ohio River front development, Mar. 23. *38
Chase, A. A. and D. V. Green: Enamel signs aid in tower identification, Mar. 23 *54
Chidester, W. & T. W. Wiggins: Counterweights aid pole setting, May 25. *. *82
Christopher, R. S.: Hypodermic needle seals gas leaks, Mar. 9. *70
Class, S. C. & F. E. Raglin: Truck provides substation test facilities, Jan. 12 *63
Cleary, J. V. & C. B. Maretzo: Test condenser tubes electronically, Mar. 2. *57
Clyde, J. P.: Mount pothead on universal plate, June 29. *168
Colby, W. S. & others: Devise rig to lift 165-ton stator, Jan. 5. *34
Cook, Donad C.: Sees preferred stocks tending to retirement, Apr. 27. 99
Corbell, I. T. & J. F. Stuart: Mountainside reflector directs microwave to El Paso building, June 8. *60
Corette, J. E.: Says business is remiss in telling public of favors, Apr. 27. *49
Cox, F. A.: 240/480-v urged for new homes, May 18. 82
Cox, F. M.: Service street lights with special truck, Mar. 30. *129
Crawford, Cecil: Angled hook eliminates slipping, May 4. *60
Culberson, Reid T.: Automatic ground switch protects tapped substations, May 25 *70
Cullen, A. M.: Waste oil helps cut brush control costs, June 1. 51
Currie, B. A. & S. G. Pann: High-strength insulators defy duffers, June 8. *62

DAVEY, JACK & H. L. DELONEY: Carrier operates on insulated shield wire of H-frame line, May 11. 42
Davis, T. E.: Rubber hood covers energized cutouts, June 29 *191
Dean, P. S. & Howard Humphries: Connecticut L&P "shoehorns" 4 circuits into 80-ft right-of-way, June 29. *149
Deloney, H. L.: "No-tap" transformers pay off, May 18 76
Deloney, H. L. & Jack Davey: Carrier operates on insulated shield wire of H-frame line, May 11. 42
D'Entremont, F. R.: Test instrument transformer condition, Feb. 9. *56
Dewberry, R. A.: Chart aids in application of shunt capacitors, Feb. 23. 82
Dols, K. K.: Local back-up relaying protects system, Feb. 2. *38
Dolton, R. L. & S. H. Brown: Copter gives high degree of brush kill, June 29. *179
Doss, J. B.: Temporary substation bus aids service continuity, Apr. 6. *54
Drees, H.: Fiberglass ladder promotes safety, June 29. *192
Dunbar, Erroll: Handle overhead jobs safely with extended stick, Mar. 30. *137

EDWARDS, M. A.: New form aids ordering of material, June 1. *50
Einwechter, W. S. & R. R. Glover: Aluminum structures support aluminum bus, Mar. 9 *58
Elek, A.: Proper grounding reduces hazards, Feb. 16 *78
Erickson, Arthur: Integrated network, daring hydro designs help French meet demands, June 22 *60
Evans, V. R.: Conveyors speed mixing, cut production costs, Mar. 23. *47

FEESER, CHESTER G.: New furnace boosts product quality and output, June 8 *69
Ferguson, M. L.: Jib crane handles interrupters, Feb. 2. *42
Ferris, William A.: Penta-treated poles endure, Mar. 23 41
Fiedler, George H.: 24-hr clock system reduces errors, Jan. 5. *36
Fleishmann, Nicholas: Plastic pipe cuts cable installation costs, Mar. 9. *70
Foote, J. H. & A. Carnegie: Utility, other agencies cooperate in Ohio River front development, Mar. 23. *38
Ford, Henry J.: Thermostat controls secondary capacitors, June 22. 87
Forsyth, S. L.: Electric heating improves load factor, Feb. 2. 45
Forsyth, W. R. & D. B. Zelenka: Accurate controls aid aerial survey of coal, June 29 *152
Fossum, H. & L. C. Weber: Aluminum bus saves in substation design, May 25. *62
Fox, F. K. & R. A. Wise: Logic static switching promises better industrial load control, June 29. *98
Frank, James A.: Saves on transmission planning, Mar. 15 *59
Fryer, R. T.: Underground system costs pared for residential service, June 1. *46
Furr, G. L.: Urges industrial promotion through area development, Apr. 27. *49

GAIENNIE, DARYL E.: Two portable transformers aid changeovers, Mar. 30 *126
Gardner, R. M.: TVA builds 500-Mw steam unit, largest yet ordered in U.S.A., May 18 *70
Why heat pump is your best bet, Mar. 16 *62
Geddie, E. M.: 23-kv distribution proves attractive, Apr. 20 *106
George, E. O.: Electric space heating is prime sales goal, Apr. 27. *102
Ghen, M. W.: Pulling rig helps install pipe type cable, Jan. 26. *82
Glover, R. R. & W. S. Einwechter: Aluminum structures support aluminum bus, Mar. 9 *58
Goodman, D. J.: Modified meter arrangement aids load dispatches, June 15. *50
Grady, A. R. Jr.: Looped microwave links system, May 4. *54
Green, D. V. and A. A. Chase: Enamel signs aid in tower identification, Mar. 23 *54
Greig, W. A.: Tests show why standards err, Apr. 13 81
Grimm, John O.: Tests check lightning, relaying, spur 230-kv line adjustments, Apr. 13 *76

HALLY, H. G.: Underground planned to take load growth, Mar. 9. *69
Hardin, G. G. & S. C. Johnson: Thermal device matches capacitors with kvar load, Mar. 30 *104
Harris, J. O. Jr. & J. J. Lombard: Transformer bracket supports delta connections, Mar. 23. *54
Harrod, R. H.: Ingenuity is key to market growth problem, June 8. *70
Haven, Granville J.: Electric pressing doubles business, May 25. *114
Henderson, Marvin D.: Electric heat plays big role in unique process, Apr. 27. *62
Herbert, John C.: Store bushings safely, efficiently, June 29. *194
Two racks store fifty reels, June 8. *62
Higgins, E. J.: Stainless steel paint protects towers, June 1. *49
Hochgesang, Charles: 4th annual nuclear power report, June 22. *63
Hoffman, Leslie W.: Pressure-fired cyclone furnaces work well, May 11. *48
Humphries, H.: Bucket attachment handles fiber duct, June 29. *194
Humphries, Howard & P. S. Dean: Connecticut L&P "shoehorns" 4 circuits into 80-ft right-of-way, June 29. *149
Hurley, Ralph: Increase "working" storage, Mar. 30. *140
Hutchins, W. F.: Electric heat speeds output, reduces rejects, Feb. 2. *48

ILER, P. R.: Handy gauge checks OCB contacts, Jan. 19. *40
Imburgia, C. A. & others: Computer speeds bus design, Jan. 12. 56
Imhoff, D. H. & J. L. Schanz: RWR's economy, potential spur development, June 22 70
Irish, George H.: Jack adapter helps handle batteries, June 29. *195

JOHNSON, S. C. & G. G. HARDIN: Thermal device matches capacitors with kvar load, Mar. 30. *104
Jones, A. R. & B. L. Lloyd: 330-eMw PWR plant operation likely in '65, June 22 *68

KANGA, B. K.: Dry unit simplifies structure, June 29 *110
Karassik, Igor J.: Combined gas-steam turbine cycle offers plant savings, Mar. 9 *60
Kaye, Peter: First "electric" rated highly, Mar. 30 *61
Keene, J. R. & C. B. Bechtel: Rig pulls and cuts cable automatically, Apr. 27 *54
Keeth, J. A.: Mine-mouth station pays off, May 4 *57
Keller, Charles: Metal guards protect luminaires, June 29 *184
Kelly, E. J. & T. H. Progler: Dual cooling ups bank rating for emergency, May 25 *64
Kirchmayer, L. K. & A. G. Mellor: New analytical tools permit integrated system planning, June 1. 52

(Ed) Editorial. *Illustrated. (N) News. (R) Reference Sheet.

Klecker, R. W.: Nuclear superheater augurs new era, June 22 ..... *73
Knable, A. H. & B. G. Bailey: Industrial plant voltage dips can be alleviated 4 ways, Mar. 16 56
Knapp, Sherman R.: Use all public relations tools, utilities are told, Apr. 27.*102
Koch, H. H.: Seal time switches and meters with multibar seal, Apr. 27 ..... *54
Kraus, Eugene S.: Skinning knife locks closed, Mar. 30 ..... *139
Krick, Irving P.: Streamflow forecasts are reliable, Mar. 30 ..... *71
Kyle, S. C. & R. H. Martin: Improve lighting for dispatchers, June 29 .....*107

LAJOUSKEY, WILLIAM: Field testing of transformer oil proves accurate, June 15 ..... *50
Landel, Arthur: Civil defense alarm proves feasible, Feb. 16 ..... *84
Leahey, Robert M.: Truth gages aid overhaul of hydro unit, June 29 .....*156
Leeds, Theodore A.: Electro Met converts 175-Mw load from 25 to 60-cps distribution, Jan. 12 ..... *52
Leinbach, E. L.: Can self-regulating transformers improve service or cut costs? Apr. 6 52
Lindsey, J. R.: Unbalance is chief vibration cause in large units, Apr. 13... *78
Lloyd, B. L. & A. R. Jones: 330-eMw PWR plant operation likely in '65, June 22 *68
Lombard, J. J. and J. O. Harris, Jr.: Transformer bracket supports delta connections, Mar. 23 ..... *54
Longdon, Robert V.: Work sampling measures job efficiency, May 11 55
Lucky, Murry E.: Cutter speeds repair of air heater tubes, Mar. 30 .....*108
Lyons, B. M.: Infra-red keeps weigh station comfortable, Feb. 2 ..... *49

MAKOVICH, JOHN E.: Graph aids in locating protective devices on mains and feeders, Mar. 9 62
Maretzo, C. B. & J. V. Cleary: Test condenser tubes electronically, Mar. 2.. *57
Margolis, H. B.: Sporn switchyard keeps pace, Feb. 9 ..... *51
Marks, W. S.: IBM accounting trims stock, May 4 ..... *55
Marschner, Frank C.: Pumping truck empties manholes, Apr. 13 ..... *84
Special truck pulls and handles cable easily, Mar. 30 ..... *113
Martin, B. H. & S. C. Kyle: Improve lighting for dispatchers, June 29 .....*107
Mason, Harold E.: Philadelphia replaces its gas lamps, May 25 ..... *111
Mayer, George A.: Install lighting cable for 43% less, Mar. 30 ..... *101
McClelland, Joseph: Heaters eliminate waste bread, cut costs, Feb. 2 ..... *50
McComb, H.: T-type structure saves time and costs, May 25 ..... *66
McCune, Francis K.: GE will develop BWR as most promising, Apr. 27 99
McElhaney, G. W. & L. H. Ruhlen: Service building is heated and cooled electrically, June 15 ..... *46
McWhorter, Matt L.: Favors higher debt ratios for utility company bonds, Apr. 27 99
Mellor, A. G. & L. K. Kirchmayer: New analytical tools permit integrated system planning, June 1 52
Miller, E. P.: Split-bus adopted for McMeekin substation, Apr. 6 ..... *56
Miller, George & Melvin Storck: Chain drive wheel helps grind valves, Apr. 6 ..... *55
Mitchell, W. C.: Tire chains make guy wire cage, Mar. 30 ..... *122
Mohr, Bela & others: Single-phase serves residential air conditioning better, cheaper, Jan. 19 38
Mraz, W. J. & M. R. Yarger: Built-in dc supply aids telemeter test, Mar. 16. *60
Mumma, J. L.: Electric pump proves superiority over diesel, Apr. 27 ..... *60
Munzey, Gordon & D. J. Vaccaro: Plant distribution combines economy, reliability, May 18 ..... *68
Murray, Leon F.: Change standards to reflect "ampacities," Feb. 16 74

PACEY, W. C.: Replace governor motors quickly, Apr. 6 ..... *54
Palmberg, Earl: Novel system boosts plant safety, efficiency, Feb. 2 ..... *47
Pann, S. G. & B. A. Currie: High-strength insulators defy duffers, June 8..... *82
Pendray, Thomas & others: New test method affords data correcting meter registrations, Mar. 23 ..... *44
Pennington, R. T.: Superheat loop aids nuclear program, June 15 ..... *45
Phillips, George H.: How to gauge effect of creep, Mar. 9 56
Progler, T. H. & E. J. Kelly: Dual cooling ups bank rating for emergency, May 25 ..... *64

RAGLIN, F. E. & S. C. Class: Truck provides substation test facilities, Jan. 12 ..... *83
Raila, E. S.: Insulated connector resists corrosion, May 4 ..... *91
Rauth, A. W.: Takes 1.4 min to test meter, Feb. 2 ..... *44
Reese, H. R.: Turbine "building blocks" meet future needs, June 29 ..... *96
Reese, W. S.: Bucket auger speeds substation pier work, June 29 162
Reinhold, R. E.: Measures temperature loads, May 11 45
Retallack, R. L.: Armless poles carry 69-kv line, Jan. 3 ..... *31
Riemar, Paul J.: Instruct personnel with training aids, May 25 ..... *82
Ruhlen, L. H. & G. W. McElhaney: Service building is heated and cooled electrically, June 15 ..... *46
Rush, W. L.: Creep lengthens sag by 2 ft, Mar. 9 57

SALOMA, JOHN: Niagara hydro power project to cost New York $705 million, Jan. 19 ..... *34
Schanz, J. L. & D. H. Imhoff: BWR's economy, potential spur development,, June 22 70
Schenk, A. J.: Machine parts with leads attached, Apr. 13 ..... *84
Shaw, Frank W.: New 161-kv line is adaptable to bundling, June 8 ..... *64
Shores, R. B. & W. R. Wilson: Modular unit is basis of breaker design, Apr. 20 ..... *104
Shuck, D. E.: Second generator cuts gas costs, Mar. 30 ..... *124
Simmons, G. F.: New insulation withstands extreme current, Apr. 13..... *88
Simpson, William G.: Portable meter base speeds surveys, Feb. 2 ..... *43
Singleton, J. L.: Cites fruitful cooperation on NEMA, EEI, others, Apr. 27.... *49
Skuderna, J. E.: Gupbs determine distribution source-end grounding requirements, Mar. 23 74
Smith, Ralph O.: Electric salt bath key to quality heat treating, Mar. 23..... *48
Ultra-sonic cleaners assure quality product, Apr. 27 ..... *62
Smithley, R. S.: Normal relay settings handle cold load, June 15 52
Spear, Edward F.: Operation more economical with utility tie, Mar. 23... *50
Spencer, R. L.: Electric shell core moulding improves product, Apr. 27..... *60
Stanton, L. M. & others: New test method affords data correcting meter registrations, Mar. 23 ..... *44
Stegeman, Arthur J.: Electrical World industry statistics—55th annual report, Pt I Jan. 26-83, Pt II Feb. 23.. 83
Stevens, L. J.: Stainless steel extends insulator life, Jan. 12 ..... *55
Stone, H. C.: Charts aid capacitor fuse selection, Feb. 9 62
Storck, Melvin & George Miller: Chain drive wheel helps grind valves, Apr. 6 ..... *55
Storrick, R. W.: Shot-blaster handles smaller items, June 29 .....*182
Streich, W. L.: Heat pumps eliminate egg aging problem, May 25 114
Strom, A. P.: Utilities study SF_6 as interrupting medium, Feb. 2 ..... *40
Strozier, Henry H.: Expulsion breaker protects substation, May 25 ..... *68
Stuart, J. F. & I. T. Corbell: Mountainside reflector directs microwave to El Paso building, June 8 ..... *60
Sykes, J. H. M.: British see need for load-factor emphasis, June 29 50
Calder Hall completes first two years, Mar. 30 ..... *67

TANNER, ROBERT F.: Straw-gravel road carries heavy units, June 29..... 168
Taylor, J. A.: Split conduit elbow reduces bottlenecks, May 4 ..... *91
Taylor, W. P.: Potential detector checks metalclad circuits, May 18..... *75
Tipton, E. W.: Amines boost transformer capability, June 22 92
Tonning, John O.: Muskeg needs special tower footings, June 29 ..... *94
Trimmier, W. W.: Improved methods cut industrial substation costs, Apr. 27 *56
Tripp, H. G.: Utility adopts "breath of life" resuscitation, June 29 .....*189
Tschappa, D. W.: Aluminum-plastic sealer preserves tank wall, Mar. 30..... 116
Tulloch, D. F.: Polyethylene sleeves protect cable from moisture, May 4.... *60
Turner, Homer H. Jr.: Electric mill cuts feed costs $15 per ton, June 8..... *68
Lower costs stem from switch to electric power, Apr. 27 ..... *61
Turner, William: Relay scheme checks synchronism, Feb. 23 ..... *81

VACCARO, D. J. & GORDON MUNZEY: Plant distribution combines economy reliability, May 18 ..... *68
Van Sleen, R.: Special members cut structure cost, Jan. 19 ..... *41
Vassiliev, S. G. & others: Computer speeds bus design, Jan. 12 56

WAGNER, GEORGE C.: Experience proves heat pumps are economic, Feb. 2 ..... *48
Walker, R. K.: Slide rule finds lamp burning hours, June 29 .....*174
Wark, James R.: Electricity plays big part in plastic coating, Mar. 23..... *48
Weaver, Peter: Mexico gears for record breaking power program, Jan. 5... *26
Weber, L. C. & H. Fossum: Aluminum bus saves in substation design, May 25.. *62
Weber, Ted: Appliance sales take 7.5% drop, Feb. 23 94
Wiechmann, W. & D. E. Wisleder: Springfield saves $48,000 on 3 substations, May 4 ..... *62
Wiggins, T. W. & W. Chidester: Counterweights aid pole setting, May 25... *82
Wilson, Gordon A.: Improved tap changer saves space, Mar. 16 63
Wilson, W. R. & R. B. Shores: Modular unit is basis of breaker design, Apr. 20 ..... *104
Wilson, Woodrow E.: Wires longhand trouble calls, June 8 .....*110
Winner, George C.: Modern oven is key to new line of products, Apr. 27..... *61
Winter, D. F.: Aluminum transformer shows promise, Mar. 16..... *63
Winter, J. H. Jr.: Bell device safely tests 2.4-kv lines, June 22 ..... *88
Wise, R. A. & F. K. Fox: Logic static switching promises better industrial load control, June 29..... *98
Wisleder, D. E. & W. Wiechmann: Springfield saves $48,000 on 3 substations, May 4 ..... *62
Witmer, Frank P. Jr.: Single shell contains heaters, Jan. 19..... *42
Woolley, C. B. Jr. & others: New test method affords data correcting meter registrations, Mar. 23..... *44
Wray, J. Q. Jr.: Allen Plant builds for five units with 1,200-Mw capacity in 1961, Apr. 6..... *56
Wright, V. G. & others: Devise rig to lift 165-ton stator, Jan. 5..... *34
Wright, W. J.: Use wrong-size CT's for emergencies, June 8..... *63

YARGER, M. R. & W. J. MRAZ: Built-in dc supply aids telemeter test, Mar. 16 ..... *60

ZELENKA, D. B. & W. R. FORSYTH: Accurate controls aid aerial survey of coal, June 29 .....*152

(Ed) Editorial. *Illustrated. (N) News. (R) Reference Sheet.